



Purchasing Division

Invitation for Bid

IFB-4426-17-DH
Lewis Wash Bridge Replacement GRJ F.5-30.8
Federal Aid Project #: BRO M555-031
Project Code: 20432

Responses Due:

December 19, 2017 prior to 3:30pm

Accepting Electronic Responses Only

Responses Only Submitted Through the Rocky Mountain E-Purchasing System (RMEPS)

<https://www.rockymountainbidssystem.com/default.asp>

(Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. 800-835-4603)

Purchasing Representative:

Duane Hoff Jr., Senior Buyer

duaneh@gjcity.org

970-244-1545

This document has been developed specifically to solicit competitive responses for this solicitation, and may not be the same as previous City of Grand Junction solicitations. All vendors are urged to thoroughly review this solicitation prior to responding. Submittal by **FAX, EMAIL or HARD COPY IS NOT ACCEPTABLE** for this solicitation.

Invitation for Bids

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1. Instructions to Bidders

- 1.1. **Purpose:** The City of Grand Junction is soliciting competitive bids from qualified and interested companies for all labor, equipment, and materials required for the Lewis Wash Bridge Replacement Project. All dimensions and scope of work should be verified by Contractors prior to submission of bids.

Note: This project shall be constructed in accordance with the current Davis Bacon Wage Rate Determination (Refer to Appendix A).

IFB Questions:

Duane Hoff Jr., Senior Buyer
duane@gjcity.org

- 1.2. **Mandatory Pre-Bid Meeting:** **Prospective bidders are required to attend a mandatory pre-bid meeting on December 7, 2017 at 10:00am.** Meeting location shall be in the Lewis Wash bridge located on F ½ Road between 30 Road and 31 Road. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).
- 1.3. **The Owner:** The Owner is the City of Grand Junction, Colorado and is referred to throughout this Solicitation. The term Owner means the Owner or his authorized representative.
- 1.4. **Submission:** **Each bid shall be submitted in electronic format only, and only through the Rocky Mountain E-Purchasing website (<https://www.rockymountainbidsystem.com/default.asp>).** *This site offers both “free” and “paying” registration options that allow for full access of the Owner’s documents and for electronic submission of proposals. (Note: “free” registration may take up to 24 hours to process. Please Plan accordingly.)* Please view our “**Electronic Vendor Registration Guide**” at <http://www.gjcity.org/business-and-economic-development/bids/> for details. (Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. **800-835-4603**)
- 1.5. **Modification and Withdrawal of Bids Before Opening.** Bids may be modified or withdrawn by an appropriate document stating such, duly executed and submitted to the place where Bids are to be submitted at any time prior to Bid Opening.
- 1.6. **Printed Form for Price Bid:** All Price Bids must be made upon the Price Bid Schedule attached, and should give the amounts both in words and in figures, and must be signed and acknowledged by the bidder.

The Offeror shall specify a unit price in figures for each pay item for which a quantity is given and shall provide the products (in numbers) of the respective unit prices and quantities in the Extended Amount column. The total Bid price shall be equal to the sum of all extended amount prices. When an item in the Price Bid Schedule provides a choice

to be made by the Offeror, Offeror's choice shall be indicated in accordance with the specifications for that particular item and thereafter no further choice shall be permitted.

Where the unit of a pay item is lump sum, the lump sum amount shall be shown in the "extended amount" column and included in the summation of the total Bid.

All blank spaces in the Price Bid Schedule must be properly filled out.

Bids by corporations must be executed in the corporate name by the president or vice president or other corporate office accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown below the signature.

Bids by partnerships must be executed in the partnership name and signed by a partner whose title must appear under the signature and the official address of the partnership must be shown below the signature.

All names must be typed or printed below the signature.

The Offeror's Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Contractor's Bid Form.

The contact information to which communications regarding the Bid are to be directed must be shown.

- 1.7. **Exclusions:** No oral, telephonic, emailed, or facsimile bid will be considered
- 1.8. **Contract Documents:** The complete IFB and bidder's response compose the Contract Documents. Copies of bid documents can be obtained from the City Purchasing website, <http://www.gjcity.org/business-and-economic-development/bids/> .
- 1.9. **Additional Documents:** The July 2010 edition of the "City Standard Contract Documents for Capital Improvements Construction", Plans, Specifications and other Bid Documents are available for review or download on the Public Works & Planning/Engineering page at www.gjcity.org. Electronic copies may be obtained on a CD format at the Department of Public Works and Planning at City Hall.
- 1.10. **Definitions and Terms:** See Article I, Section 3 of the General Contract Conditions in the *Standard Contract Documents for Capital Improvements Construction*.
- 1.11. **Examination of Specifications:** Bidders shall thoroughly examine and be familiar with the project Statement of Work. The failure or omission of any Offeror to receive or examine any form, addendum, or other document shall in no way relieve any Offeror from any obligation with respect to his bid. The submission of a bid shall be taken as evidence of compliance with this section. Prior to submitting a bid, each Offeror shall, at a minimum:
 - a. Examine the *Contract Documents* thoroughly;

- b. Visit the site to familiarize themselves with local conditions that may in any manner affect cost, progress, or performance of the Work;
- c. Become familiar with federal, state, and local laws, ordinances, rules, and regulations that may in any manner affect cost, progress or performance of the Work;
- d. Study and carefully correlate Bidder's observations with the *Contract Documents*, and;
- e. Notify the Engineer of all conflicts, errors, ambiguities or discrepancies in or among the *Contract Documents*

On request, the Owner will provide each Offeror access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of a Bid. It shall be the Offeror's responsibility to make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (including without limitation, surface, subsurface and underground utilities) at or contiguous to the site or otherwise which may affect cost, progress or performance of the work and which the Offeror deems necessary to determine its Bid for performing the work in accordance with the time, price and other terms and conditions of the Contract Documents. Location of any excavation or boring made by Offeror shall be subject to prior approval of Owner and applicable agencies. Offeror shall fill all holes, restore all pavements to match the existing structural section and shall clean up and restore the site to its former condition upon completion of such exploration. The Owner reserves the right to require the Offeror to execute an access agreement with the Owner prior to accessing the site.

The lands upon which the Work is to be performed, rights of way, and access thereto, and other lands designated for use by Contractor in performing the Work, are identified on the Drawings.

Information and data reflected in the *Contract Documents* with respect to underground utilities at or contiguous to the site are based upon information and data furnished to the Owner and the Engineer by the owners of such underground utilities or others, and the Owner does not assume responsibility for the accuracy or completeness thereof, unless it is expressly provided otherwise in the *Contract Documents*.

By submission of a Bid, the Offeror shall be conclusively presumed to represent that the Offeror has complied with every requirement of these Instructions to Bidders, that the *Contract Documents* are not ambiguous and are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

- 1.12. Questions Regarding Statement of Work:** Any information relative to interpretation of Scope of Work or specifications shall be requested of the Purchasing Representative, in writing, in ample time prior to the response time.

- 1.13. **Addenda & Interpretations:** If it becomes necessary to revise any part of this solicitation, a written addendum will be posted electronically on the City's website at <http://www.gjcity.org/business-and-economic-development/bids/>. The Owner is not bound by any oral representations, clarifications, or changes made in the written specifications by Owner, unless such clarification or change is provided in written addendum form from the City Purchasing Representative.
- 1.14. **Taxes:** The Owner is exempt from State retail and Federal tax. The bid price must be net, exclusive of taxes.
- 1.15. **Sales and Use Taxes:** The Contractor and all Subcontractors are required to obtain exemption certificates from the Colorado Department of Revenue for sales and use taxes in accordance with the provisions of the General Contract Conditions. Bids shall reflect this method of accounting for sales and use taxes on materials, fixtures and equipment.
- 1.16. **Offers Binding 60 Days:** Unless additional time is required by the Owner, or otherwise specified, all formal offers submitted shall be binding for sixty (60) calendar days following opening date, unless the Bidder, upon request of the Purchasing Representative, agrees to an extension.
- 1.17. **Collusion Clause:** Each bidder by submitting a bid certifies that it is not party to any collusive action or any action that may be in violation of the Sherman Antitrust Act. Any and all bids shall be rejected if there is evidence or reason for believing that collusion exists among bidders. The Owner may, or may not, accept future bids for the same services or commodities from participants in such collusion.
- 1.18. **Disqualification of Bidders:** A Bid will not be accepted from, nor shall a Contract be awarded to, any person, firm, or corporation that is in arrears to the Owner, upon debt or contract, or that has defaulted, as surety or otherwise, upon any obligation to the Owner, or that is deemed irresponsible or unreliable.

Bidders may be required to submit satisfactory evidence that they are responsible, have a practical knowledge of the project bid upon and that they have the necessary financial and other resources to complete the proposed Work.

Either of the following reasons, without limitation, shall be considered sufficient to disqualify a Bidder and Bid:

- a. More than one Bid is submitted for the same Work from an individual, firm, or corporation under the same or different name; and
 - b. Evidence of collusion among Bidders. Any participant in such collusion shall not receive recognition as a Bidder for any future work of the Owner until such participant has been reinstated as a qualified bidder.
- 1.19. **Public Disclosure Record:** If the bidder has knowledge of their employee(s) or sub-contractors having an immediate family relationship with a City/County employee or elected official, the bidder must provide the Purchasing Representative with the name(s) of these individuals. These individuals are required to file an acceptable "Public

Disclosure Record”, a statement of financial interest, before conducting business with the City/County.

2. General Contract Conditions for Construction Projects

- 2.1. The Contract:** This Invitation for Bid, submitted documents, and any negotiations, when properly accepted by the City/County, shall constitute a contract equally binding between the City/County and Contractor. The contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. The contract may be amended or modified with Change Orders, Field Orders, or Addendums.
- 2.2. The Work:** The term Work includes all labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in such construction.
- 2.3. Execution, Correlation, Intent, and Interpretations:** The Contract Documents shall be signed in not less than triplicate by the Owner (City/County) and Contractor. City/County will provide the contract. By executing the contract, the Contractor represents that he/she has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents. The Contract Documents are complementary, and what is required by any one, shall be as binding as if required by all. The intention of the documents is to include all labor, materials, equipment and other items necessary for the proper execution and completion of the scope of work as defined in the technical specifications and drawings contained herein. All drawings, specifications and copies furnished by the City/County are, and shall remain, City/County property. They are not to be used on any other project, and with the exception of one contract set for each party to the contract, are to be returned to the owner on request at the completion of the work.
- 2.4. The Owner:** The Owner is the City of Grand Junction, Colorado and is referred to throughout the Contract Documents. The term Owner means the Owner or his authorized representative. The Owner shall, at all times, have access to the work wherever it is in preparation and progress. The Contractor shall provide facilities for such access. The Owner will make periodic visits to the site to familiarize himself generally with the progress and quality of work and to determine, in general, if the work is proceeding in accordance with the contract documents. Based on such observations and the Contractor’s Application for Payment, the Owner will determine the amounts owing to the Contractor and will issue Certificates for Payment in such amounts, as provided in the contract. The Owner will have authority to reject work which does not conform to the Contract documents. Whenever, in his reasonable opinion, he considers it necessary or advisable to insure the proper implementation of the intent of the Contract Documents, he will have authority to require the Contractor to stop the work or any portion, or to require special inspection or testing of the work, whether or not such work can be then be fabricated, installed, or completed. The Owner will not be responsible for the acts or omissions of the Contractor, and sub-Contractor, or any of their agents or employees, or any other persons performing any of the work.

- 2.5. Contractor:** The Contractor is the person or organization identified as such in the Agreement and is referred to throughout the Contract Documents. The term Contractor means the Contractor or his authorized representative. The Contractor shall carefully study and compare the General Contract Conditions of the Contract, Specification and Drawings, Scope of Work, Addenda and Modifications and shall at once report to the Owner any error, inconsistency or omission he may discover. Contractor shall not be liable to the Owner for any damage resulting from such errors, inconsistencies or omissions. The Contractor shall not commence work without clarifying Drawings, Specifications, or Interpretations.
- 2.6. Sub-Contractors:** A sub-contractor is a person or organization who has a direct contract with the Contractor to perform any of the work at the site. The term sub-contractor is referred to throughout the contract documents and means a sub-contractor or his authorized representative.
- 2.7. Award of Sub-Contractors & Other Contracts for Portions of the Work:** Contractor shall submit with their bid response to the Owner, in writing for acceptance, a list of the names of the sub-contractors or other persons or organizations proposed for such portions of the work as may be designated in the proposal requirements, or, if none is so designated, the names of the sub-contractors proposed for the principal portions of the work. Prior to the award of the contract, the Owner shall notify the successful Contractor in writing if, after due investigation, has reasonable objection to any person or organization on such list. If, prior to the award of the contract, the Owner has a reasonable and substantial objection to any person or organization on such list, and refuses in writing to accept such person or organization, the successful Contractor may, prior to the award, withdraw their proposal without forfeiture of proposal security. If the successful Contractor submits an acceptable substitute with an increase in the proposed price to cover the difference in cost occasioned by the substitution, the Owner may, at their discretion, accept the increased proposal or may disqualify the Contractor. If, after the award, the Owner refuses to accept any person or organization on such list, the Contractor shall submit an acceptable substitute and the contract sum shall be increased or decreased by the difference in cost occasioned by such substitution and an appropriate Change Order shall be issued. However, no increase in the contract sum shall be allowed for any such substitution unless the Contractor has acted promptly and responsively in submitting a name with respect thereto prior to the award.
- 2.8. Quantities of Work and Unit Price:** Materials or quantities stated as unit price items in the Bid are supplied only to give an indication of the general scope of the Work, and are as such, estimates only. The Owner does not expressly or by implication agree that the actual amount of Work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit item of the Work without a change in the unit price except as set forth in Article VIII, Section 70 of the *General Contract Conditions*. The City also reserves the right to make changes in the Work (including the right to delete any bid item in its entirety or add additional bid items) as set forth in Article VIII, Sections 69 through 71 of the *General Contract Conditions*.
- 2.9. Substitutions:** The materials, products and equipment described in the *Solicitation Documents* shall be regarded as establishing a standard of required performance, function, dimension, appearance, or quality to be met by any proposed substitution. No

substitution will be considered prior to receipt of Bids unless the Offeror submits a written request for approval to the City Purchasing Division at least ten (10) days prior to the date for receipt of Bids. Such requests for approval shall include the name of the material or equipment for which substitution is sought and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for evaluation, including samples if requested. The Offeror shall set forth changes in other materials, equipment, or other portions of the Work including changes of the work of other contracts, which incorporation of the proposed substitution would require to be included. The Owner's decision of approval or disapproval of a proposed substitution shall be final. If the Owner approves a proposed substitution before receipt of Bids, such approval will be set forth in an Addendum. Offerors shall not rely upon approvals made in any other manner.

- 2.10. Supervision and Construction Procedures:** The Contractor shall supervise and direct the work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work under the contract.
- 2.11. Warranty:** The Contractor warrants to the Owner that all materials and equipment furnished under this contract will be new unless otherwise specified, and that all work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All work not so conforming to these standards may be considered defective. If required by Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. If within ten (10) days after written notice to the Contractor requesting such repairs or replacement, the Contractor should neglect to make or undertake with due diligence to the same, the City may make such repairs or replacements. All indirect and direct costs of such correction or removal or replacement shall be at the Contractor's expense. The Contractor will also bear the expenses of making good all work of others destroyed or damaged by the correction, removal or replacement of his defective work.
- 2.12. Permits, Fees, & Notices:** The Contractor shall secure and pay for all permits, governmental fees and licenses necessary for the proper execution and completion of the work. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and orders of any public authority bearing on the performance of the work. If the Contractor observes that any of the Contract Documents are at variance in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be adjusted by approximate modification. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility and shall bear all costs attributable.
- 2.13. Responsibility for Those Performing the Work:** The Contractor shall be responsible to the Owner for the acts and omissions of all his employees and all sub-contractors, their agents and employees, and all other persons performing any of the work under a contract with the Contractor.

- 2.14. Use of the Site:** The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents, and shall not unreasonably encumber the site with any materials or equipment.
- 2.15. Cleanup:** The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of work he shall remove all his waste materials and rubbish from and about the project, as well as all his tools, construction equipment, machinery and surplus materials.
- 2.16. Insurance:** The Contractor shall secure and maintain such insurance policies as will provide the coverage and contain other provisions specified in the General Contract Conditions, or as modified in the Special Contract Conditions.

The Contractor shall file a copy of the policies or Certificates of Insurance acceptable to the City with the Engineer within ten (10) Calendar Days after issuance of the Notice of Award. These Certificates of Insurance shall contain a provision that coverage afforded under the policies shall not be canceled unless at least thirty (30) Calendar Days prior written notice has been given to the City.

- 2.17. Indemnification:** The Contractor shall defend, indemnify and save harmless the Owner, and all its officers, employees, insurers, and self-insurance pool, from and against all liability, suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the Contractor, or of any Contractor's agent, employee, sub-contractor or supplier in the execution of, or performance under, any contract which may result from proposal award. Contractor shall pay any judgment with cost which may be obtained against the Owner growing out of such injury or damages.
- 2.18. Miscellaneous Conditions:** Material Availability: Contractors must accept responsibility for verification of material availability, production schedules, and other pertinent data prior to submission of bid. It is the responsibility of the bidder to notify the Owner immediately if materials specified are discontinued, replaced, or not available for an extended period of time. OSHA Standards: All bidders agree and warrant that services performed in response to this invitation shall conform to the standards declared by the US Department of Labor under the Occupational Safety and Health Act of 1970 (OSHA). In the event the services do not conform to OSHA standards, the Owner may require the services to be redone at no additional expense to the Owner.
- 2.19. Time:** Time is of the essence with respect to the time of completion of the Project and any other milestones or deadline which are part of the Contract. It will be necessary for each Bidder to satisfy the City of its ability to complete the Work within the Contract Time set forth in the Contract Documents. The Contract Time is the period of time allotted in the Contract Documents for completion of the work. The date of commencement of the work is the date established in a Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the Contract or such other date as may be established therein, or as established as entered on the Bid Form. The Date of Substantial Completion of the work or designated portions thereof is the date certified by the Owner when construction is sufficiently complete, in accordance with the Contract Documents.

- 2.20. Progress & Completion:** The Contractor shall begin work on the date of commencement as defined in the Contract, and shall carry the work forward expeditiously with adequate forces and shall complete it within the contract time.
- 2.21. Payment & Completion:** The Contract Sum is stated in the Contract and is the total amount payable by the Owner to the Contractor for the performance of the work under the Contract Documents. Upon receipt of written notice that the work is ready for final inspection and acceptance and upon receipt of application for payment, the Owner's Project Manager will promptly make such inspection and, when he finds the work acceptable under the Contract Documents and the Contract fully performed, the Owner shall make payment in the manner provided in the Contract Documents.
- 2.22. Bid Bond:** Each Bid shall as a guaranty of good faith on the part of the Bidder be accompanied by a Bid Guaranty consisting of: a certified or cashier's check drawn on an approved national bank or trust company in the state of Colorado, and made payable without condition to the City; or a **Bid Bond** written by an approved corporate surety in favor of the City. The amount of the Bid Guaranty shall not be less than 5% of the total Bid amount. Once a Bid is accepted and a Contract is awarded, the apparent successful bidder has ten calendar days to enter into a contract in the form prescribed and to furnish the bonds with a legally responsible and approved surety. Failure to do so will result in forfeiture of the Bid Guaranty to the City as Liquidated Damages.

Each bidder shall guaranty its total bid price for a period of sixty (60) Calendar Days from the date of the bid opening.

- 2.23. Performance & Payment Bonds:** Contractor shall furnish a Performance and a Payment Bond, each in an amount at least equal to that specified for the contract amount as security for the faithful performance and payment of all Contractor's obligations under the Contract Documents. These bonds shall remain in effect for the duration of the Warranty Period (as specified in the Special Conditions). Contractor shall also furnish other bonds that may be required by the Special Conditions. All bonds shall be in the forms prescribed by the Contract Documents and be executed by such sureties as (1) are licensed to conduct business in the State of Colorado and (2) are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of the Authority Act. If the surety on any bond furnished by the Contractor is declared bankrupt, or becomes insolvent, or its rights to do business in Colorado are terminated, or it ceases to meet the requirements of clauses (1) and (2) of this section, Contractor shall within five (5) days thereafter substitute another bond and surety, both of which shall be acceptable to the City.
- 2.24. Retention:** The Owner will deduct money from the partial payments in amounts considered necessary to protect the interest of the Owner and will retain this money until after completion of the entire contract. The amount to be retained from partial payments will be five (5) percent of the value of the completed work, and not greater than five (5) percent of the amount of the Contract. When the retainage has reached five (5) percent of the

amount of the Contract no further retainage will be made and this amount will be retained until such time as final payment is made.

2.25. Liquidated Damages for Failure to Enter Into Contract: CITY ONLY Should the Successful Bidder fail or refuse to enter into the Contract within ten Calendar Days from the issuance of the Notice of Award, the City shall be entitled to collect the amount of such Bidder's Bid Guaranty as Liquidated Damages, not as a penalty but in consideration of the mutual release by the City and the Successful Bidder of all claims arising from the City's issuance of the Notice of Award and the Successful Bidder's failure to enter into the Contract and the costs to award the Contract to any other Bidder, to readvertise, or otherwise dispose of the Work as the City may determine best serves its interest.

2.26. Liquidated Damages for Failure to Meet Project Completion Schedule: CITY ONLY If the Contractor does not achieve Final Completion by the required date, whether by neglect, refusal or any other reason, the parties agree and stipulate that the Contractor shall pay liquidated damages to the City for each such day that final completion is late. As provided elsewhere, this provision does not apply for delays caused by the City. The date for Final Completion may be extended in writing by the Owner.

The Contractor agrees that as a part of the consideration for the City's awarding of this Contract liquidated damages in the daily amount as described in the **Standard Special Provisions in Appendix A Section 108** is reasonable and necessary to pay for the actual damages resulting from such delay. The parties agree that the real costs and injury to the City for such delay include hard to quantify items such as: additional engineering, inspection and oversight by the City and its agents; additional contract administration; inability to apply the efforts of those employees to the other work of the City; perceived inefficiency of the City; citizens having to deal with the construction and the Work, rather than having the benefit of a completed Work, on time; inconvenience to the public; loss of reputation and community standing for the City during times when such things are very important and very difficult to maintain.

The Contractor must complete the Work and achieve final completion included under the Bid Schedule in the number of consecutive calendar days after the City gives is written Notice to Proceed. When the Contractor considers the entire Work ready for its intended use, Contractor shall certify in writing that the Work is substantially complete. In addition to the Work being substantially complete, Final Completion date is the date by which the Contractor shall have fully completed all clean-up, and all items that were identified by the City in the inspection for final completion. Unless otherwise stated in the Special Conditions, for purposes of this liquidated damages clause, the Work shall not be finished and the Contract time shall continue to accrue until the City gives its written Final Acceptance.

If the Contractor shall fail to pay said liquidated damages promptly upon demand thereof after having failed to achieve Final Completion on time, the City shall first look to any retainage or other funds from which to pay said liquidated damages; if retainage or other liquid funds are not available to pay said liquidated damages amounts, the Surety on the Contractor's Performance Bond and Payment Bond shall pay such liquidated damages. In addition, the City may withhold all, or any part of, such liquidated damages from any payment otherwise due the Contractor.

Liquidated damages as provided do not include any sums to reimburse the City for extra costs which the City may become obligated to pay on other contracts which were delayed or extended because of the Contractor's failure to complete the Work within the Contract Time. Should the City incur additional costs because of delays or extensions to other contracts resulting from the Contractor's failure of timely performance, the Contractor agrees to pay these costs that the City incurs because of the Contractor's delay, and these payments are separate from and in addition to any liquidated damages.

The Contractor agrees that the City may use its own forces or hire other parties to obtain Substantial or Final Completion of the work if the time of completion has elapsed and the Contractor is not diligently pursuing completion. In addition to the Liquidated Damages provided for, the Contractor agrees to reimburse the City for all expenses thus incurred.

- 2.27. Contingency/Force Account:** Contingency/Force Account work will be authorized by the Owner's Project Manager and is defined as minor expenses to cover miscellaneous or unforeseen expenses related to the project. The expenses are not included in the Drawings, Specifications, or Scope of Work and are necessary to accomplish the scope of this contract. Contingency/Force Account Authorization will be directed by the Owner through an approved form. Contingency/Force Account funds are the property of the Owner and any Contingency/Force Account funds, not required for project completion, shall remain the property of the Owner. Contractor is not entitled to any Contingency/Force Account funds, that are not authorized by Owner or Owner's Project Manager.
- 2.28. Protection of Persons & Property:** The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Contractor shall erect and maintain, as required by existing safeguards for safety and protection, and all reasonable precautions, including posting danger signs or other warnings against hazards promulgating safety regulations and notifying owners and users of adjacent utilities. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct by the Contractor in the execution of the work, or in consequence of the non-execution thereof by the Contractor, he shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or it shall make good such damage or injury in an acceptable manner.
- 2.29. Changes in the Work:** The Owner, without invalidating the contract, may order changes in the work within the general scope of the contract consisting of additions, deletions or other revisions, the contract sum and the contract time being adjusted accordingly. All such changes in the work shall be authorized by Change Order and shall be executed under the applicable conditions of the contract documents. A Change Order is a written order to the Contractor signed by the Owner issued after the execution of the contract, authorizing a change in the work or an adjustment in the contract sum or the contract time. The contract sum and the contract time may be changed only by Change Order.
- 2.30. Claims for Additional Cost or Time:** If the Contractor wishes to make a claim for an increase in the contract sum or an extension in the contract time, he shall give the Owner

written notice thereof within a reasonable time after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the work, except in an emergency endangering life or property in which case the Contractor shall precede in accordance with the regulations on safety. No such claim shall be valid unless so made. Any change in the contract sum or contract time resulting from such claim shall be authorized by Change Order.

- 2.31. Minor Changes in the Work:** The Owner shall have authority to order minor changes in the work not involving an adjustment in the contract sum or an extension of the contract time and not inconsistent with the intent of the contract documents.
- 2.32. Field Orders:** The Owner may issue written Field Orders which interpret the Contract Documents in accordance with the specifications, or which order minor changes in the work in accordance with the agreement, without change in the contract sum or time. The Contractor shall carry out such Field Orders promptly.
- 2.33. Uncovering & Correction of Work:** The Contractor shall promptly correct all work rejected by the Owner as defective or as failing to conform to the contract documents whether observed before or after substantial completion and whether or not fabricated installed or completed. The Contractor shall bear all costs of correcting such rejected work, including the cost of the Owner's additional services thereby made necessary. If within one (1) year after the date of completion or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the contract documents, any of the work found to be defective or not in accordance with the contract documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discover of condition. All such defective or non-conforming work under the above paragraphs shall be removed from the site where necessary and the work shall be corrected to comply with the contract documents without cost to the Owner. The Contractor shall bear the cost of making good all work of separate Contractors destroyed or damaged by such removal or correction. If the Owner prefers to accept defective or non-conforming work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect an appropriate reduction in the payment or contract sum, or, if the amount is determined after final payment, it shall be paid by the Contractor.
- 2.30. Amendment:** No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All amendments to the contract shall be made in writing by the Owner.
- 2.31. Assignment:** The Contractor shall not sell, assign, transfer or convey any contract resulting from this IFB, in whole or in part, without the prior written approval from the Owner.
- 2.32. Compliance with Laws:** Bids must comply with all Federal, State, County and local laws governing or covering this type of service and the fulfillment of all ADA (Americans with Disabilities Act) requirements.

- 2.33. Confidentiality:** All information disclosed by the Owner to the Contractor for the purpose of the work to be done or information that comes to the attention of the Contractor during the course of performing such work is to be kept strictly confidential.
- 2.34. Conflict of Interest:** No public official and/or City/County employee shall have interest in any contract resulting from this IFB.
- 2.35. Contract Termination:** This contract shall remain in effect until any of the following occurs: (1) contract expires; (2) completion of services; (3) acceptance of services or, (4) for convenience terminated by either party with a written *Notice of Cancellation* stating therein the reasons for such cancellation and the effective date of cancellation.
- 2.36. Employment Discrimination:** During the performance of any services per agreement with the Owner, the Contractor, by submitting a Bid, agrees to the following conditions:
- 2.36.1.** The Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, handicap, or national origin except when such condition is a legitimate occupational qualification reasonably necessary for the normal operations of the Contractor. The Contractor agrees to post in conspicuous places, visible to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- 2.36.2.** The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, shall state that such Contractor is an Equal Opportunity Employer.
- 2.36.3.** Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- 2.37. Affirmative Action:** In executing a Contract with the City, the Contractor agrees to comply with Affirmative Action and Equal Employment Opportunity regulations presented in the General Contract Conditions.
- 2.38. Immigration Reform and Control Act of 1986 and Immigration Compliance:** The Offeror certifies that it does not and will not during the performance of the contract employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986 and/or the immigration compliance requirements of State of Colorado C.R.S. § 8-17.5-101, *et.seq.* (House Bill 06-1343).
- 2.39. Ethics:** The Contractor shall not accept or offer gifts or anything of value nor enter into any business arrangement with any employee, official, or agent of the Owner.
- 2.40. Failure to Deliver:** In the event of failure of the Contractor to deliver services in accordance with the contract terms and conditions, the Owner, after due oral or written notice, may procure the services from other sources and hold the Contractor responsible for any costs resulting in additional purchase and administrative services. This remedy shall be in addition to any other remedies that the Owner may have.

- 2.41. Failure to Enforce:** Failure by the Owner at any time to enforce the provisions of the contract shall not be construed as a waiver of any such provisions. Such failure to enforce shall not affect the validity of the contract or any part thereof or the right of the Owner to enforce any provision at any time in accordance with its terms.
- 2.42. Force Majeure:** The Contractor shall not be held responsible for failure to perform the duties and responsibilities imposed by the contract due to legal strikes, fires, riots, rebellions, and acts of God beyond the control of the Contractor, unless otherwise specified in the contract.
- 2.43. Independent Contractor:** The Contractor shall be legally considered an Independent Contractor and neither the Contractor nor its employees shall, under any circumstances, be considered servants or agents of the Owner. The Owner shall be at no time legally responsible for any negligence or other wrongdoing by the Contractor, its servants, or agents. The Owner shall not withhold from the contract payments to the Contractor any federal or state unemployment taxes, federal or state income taxes, Social Security Tax or any other amounts for benefits to the Contractor. Further, the Owner shall not provide to the Contractor any insurance coverage or other benefits, including Workers' Compensation, normally provided by the Owner for its employees.
- 2.44. Nonconforming Terms and Conditions:** A bid that includes terms and conditions that do not conform to the terms and conditions of this Invitation for Bid is subject to rejection as non-responsive. The Owner reserves the right to permit the Contractor to withdraw nonconforming terms and conditions from its bid prior to a determination by the Owner of non-responsiveness based on the submission of nonconforming terms and conditions.

Items for non-responsiveness may include, but not be limited to:

- a. Submission of the Bid on forms other than those supplied by the City;
- b. Alteration, interlineation, erasure, or partial detachment of any part of the forms which are supplied herein;
- c. Inclusion of unauthorized additions conditional or alternate Bids or irregularities of any kind which may tend to make the Bid incomplete, indefinite, or ambiguous as to its meaning;
- d. Failure to acknowledge receipt of any or all issued Addenda;
- e. Failure to provide a unit price or a lump sum price, as appropriate, for each pay item listed except in the case of authorized alternative pay items;
- f. Failure to list the names of Subcontractors used in the Bid preparation as may be required in the Solicitation Documents;
- g. Submission of a Bid that, in the opinion of the Owner, is unbalanced so that each item does not reasonably carry its own proportion of cost or which contains inadequate or unreasonable prices for any item;

- h. Tying of the Bid with any other bid or contract; and
- i. Failure to calculate Bid prices as described herein.

2.45. Evaluation of Bids and Offerors: The Owner reserves the right to:

- reject any and all Bids,
- waive any and all informalities,
- negotiate final terms with the Successful Bidder, and
- disregard any and all nonconforming, nonresponsive or conditional Bids.

Discrepancies between words and figures will be resolved in favor of words. Discrepancies between Unit Prices and Extended Prices will be resolved in favor of the Unit Prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. The corrected extensions and totals will be shown in the tabulation of Bids.

The Owner may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the work as to which the identity of Subcontractors and other persons and organizations must be submitted. Operating costs, maintenance considerations performance data, and guarantees of materials and equipment may also be considered by the Owner.

The Owner will conduct such investigations as deemed necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Offeror, proposed Subcontractors and other persons and organizations to do the Work in accordance with the *Contract Documents* to the City's satisfaction within the Contract Time.

The Offeror shall furnish the Owner all information and data requested by the Owner to determine the ability of the Offeror to perform the Work. The Owner reserves the right to reject the Bid if the evidence submitted by, or investigation of such Offeror fails to satisfy the Owner that such Offeror is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein.

By submitting a Bid, each Offeror authorizes the Owner to perform such investigation of the Offeror as the Owner deems necessary to establish the responsibility, qualifications and financial ability of the Offeror and, by its signature thereon, authorizes the Owner to obtain reference information concerning the Offeror and releases the party providing such information and the Owner from any and all liability to the Offeror as a result of such reference information so provided.

The Owner reserves the right to reject the Bid of any Offeror who does not pass any evaluation to the Owner's satisfaction.

If the Contract is to be awarded, it will be awarded to the Offeror who, by evaluation, the Owner determines will best meet the Owner's interests.

The Owner reserves the right to accept or reject the Work contained in any of the Price Bid Schedules or alternates, either in whole or in part.

2.46. Award of Contract: Unless otherwise indicated, a single award will be made for all the bid items in an individual bid schedule. In the event that the Work is contained in more than one Bid Schedule, the City may award Schedules individually or in combination. In the case of two Bid Schedules which are alternative to each other, only one of such alternative Schedules will be awarded. Within forty-five (45) Calendar Days of Bid Opening, the City will issue a Notice of Award to the Successful Bidder which will be accompanied by four (4) unsigned copies of the Contract and the Performance and Payment Bond forms. Within ten (10) Calendar Days thereafter, the Successful Bidder shall sign and deliver four (4) copies of the Contract, Performance Bond, Payment Bond and Certificates of Insurance to the City. Within ten (10) Calendar Days thereafter, the City will deliver two (2) fully executed counterparts of the Contract to the Contractor. No contract shall exist between the Successful Bidder and the City and the Successful Bidder shall have no rights at law or in equity until the Contract has been duly executed by the City.

The Successful Bidder's failure to sign and submit a Contract and other documents set forth in this Paragraph within the prescribed time shall be just cause of annulment of the award, and forfeiture of the Bid Guaranty. The award of Contract may then be made to the next qualified Bidder in the same manner as previously prescribed.

2.47. Ownership: All plans, prints, designs, concepts, etc., shall become the property of the Owner.

2.48. Oral Statements: No oral statement of any person shall modify or otherwise affect the terms, conditions, or specifications stated in this document and/or resulting agreement. All modifications to this request and any agreement must be made in writing by the Owner.

2.49. Patents/Copyrights: The Contractor agrees to protect the Owner from any claims involving infringements of patents and/or copyrights. In no event shall the Owner be liable to the Contractor for any/all suits arising on the grounds of patent(s)/copyright(s) infringement. Patent/copyright infringement shall null and void any agreement resulting from response to this IFB.

2.50. Remedies: The Contractor and Owner agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.

2.51. Venue: Any agreement as a result of responding to this IFB shall be deemed to have been made in, and shall be construed and interpreted in accordance with, the laws of the City of Grand Junction, Mesa County, Colorado.

2.52. Expenses: Expenses incurred in preparation, submission and presentation of this IFB are the responsibility of the company and cannot be charged to the Owner.

- 2.53. Sovereign Immunity:** The Owner specifically reserves its right to sovereign immunity pursuant to Colorado State Law as a defense to any action arising in conjunction to this agreement.
- 2.54. Non-Appropriation of Funds:** The contractual obligation of the Owner under this contract is contingent upon the availability of appropriated funds from this fiscal year budget as approved by the City Council or Board of County Commissioners from this fiscal year only. State of Colorado Statutes prohibit obligation of public funds beyond the fiscal year for which the budget was approved. Anticipated expenditures/obligations beyond the end of the current Owner's fiscal year budget shall be subject to budget approval. Any contract will be subject to and must contain a governmental non-appropriation of funds clause.
- 2.55. Cooperative Purchasing:** Purchases as a result of this solicitation are primarily for the City/County. Other governmental entities may be extended the opportunity to utilize the resultant contract award with the agreement of the successful provider and the participating agencies. All participating entities will be required to abide by the specifications, terms, conditions and pricings established in this Bid. The quantities furnished in this bid document are for only the City/County. It does not include quantities for any other jurisdiction. The City or County will be responsible only for the award for its jurisdiction. Other participating entities will place their own awards on their respective Purchase Orders through their purchasing office or use their purchasing card for purchase/payment as authorized or agreed upon between the provider and the individual entity. The City/County accepts no liability for payment of orders placed by other participating jurisdictions that choose to piggy-back on our solicitation. Orders placed by participating jurisdictions under the terms of this solicitation will indicate their specific delivery and invoicing instructions.
- 2.56. Keep Jobs in Colorado Act:** Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a). If Contractor claims it is entitled to a waiver pursuant to C.R.S. §8-17-101(1), Contractor shall state that there is insufficient Colorado labor to perform the work such that compliance with Article 17 would create an undue burden that would substantially prevent a project from proceeding to completion, and shall include evidence demonstrating the insufficiency and undue burden in its response.

Unless expressly granted a waiver by the Owner pursuant to C.R.S. §8-17-101(1), Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a).

2.56.1. "Public project" is defined as:

- (a) any construction, alteration, repair, demolition, or improvement of any land, building, structure, facility, road, highway, bridge, or other public

improvement suitable for and intended for use in the promotion of the public health, welfare, or safety and any maintenance programs for the upkeep of such projects

- (b) for which appropriate or expenditure of moneys may be reasonably expected to be \$500,000.00 or more in the aggregate for any fiscal year
- (c) except any project that receives federal moneys.

3. Statement of Work

3.1. GENERAL: The structure, GRJ F.5-30.8, is a drainage conveyance for Lewis Wash and is located on F ½ Road between 30 Road and 31 Road. The existing structure, constructed in 1949, is a twin concrete box culvert. The structure is approximately 31 feet in length and 23 feet in width with concrete wing walls, no existing scour pad and an asphalt driving surface. With a cantilevered asphalt pedestrian walk way located on the south side of the structure. The bridge inspection report, prepared by Lonco, Inc. dated March 12, 2012 observed multiple bridge deficiencies and the structure is classified as structurally deficient.

3.2. PROJECT DESCRIPTION: The project generally consists of the removal of the old twin box culvert and wing walls and asphalt roadway, the installation of a new twin concrete box culvert conforming to Section 601 of CDOT M & S Standards for a twin 12' X 10' structure, installation of wing walls, retaining wall, Type 2 curbing, sidewalk, Hot mix asphalt patching with binder grade 64-22 and the installation of guardrail.

3.3. SPECIAL CONDITIONS & PROVISIONS:

3.3.1 Mandatory Pre-Bid Meeting: Prospective bidders are required to attend a mandatory pre-bid meeting on December 7, 2017 at 10:00am. Meeting location shall be in the Lewis Wash bridge located on F ½ Road between 30 Road and 31 Road. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).

3.3.2 QUESTIONS REGARDING SOLICIATION PROCESS/SCOPE OF WORK:

Duane Hoff Jr., Senior Buyer

City of Grand Junction

duaneh@gjcity.org

3.3.2 Project Manager: The Project Manager for the Project is John Eklund, Project Engineer, who can be reached at (970) 244-1558. During Construction, all notices, letters, submittals, and other communications directed to the City shall be addressed and mailed or delivered to:

City of Grand Junction

Department of Public Works and

Attn: John Eklund, Project Manager

333 West Avenue, Building C

Grand Junction, CO 81501

3.3.3 Affirmative Action: The Contractor is not required to submit a written Affirmative

Action Program for the Project.

3.3.4 Pricing: Pricing shall be all inclusive to include but not be limited to: all labor, equipment, supplies, materials, freight (F.O.B. Destination – Freight Pre-paid and Allowed to each site), travel, mobilization costs, fuel, set-up and take down costs, and full-time inspection costs, and all other costs related to the successful completion of the project.

The Owner shall not pay nor be liable for any other additional costs including but not limited to: taxes, shipping charges, insurance, interest, penalties, termination payments, attorney fees, liquidated damages, etc.

3.3.5 Freight/Shipping: All freight/shipping shall be F.O.B. Destination – Freight Pre-Paid and Allowed to the project site(s), Grand Junction, CO.

Contractor must meet all federal, state, and local rules, regulations, and requirements for providing such services.

3.3.6 Contract: A binding contract shall consist of: (1) the IFB and any amendments thereto, (2) the bidder's response (bid) to the IFB, (3) clarification of the bid, if any, and (4) the City's Purchasing Department's acceptance of the bid by "Notice of Award" or by "Purchase Order". All Exhibits and Attachments included in the IFB shall be incorporated into the contract by reference.

A. The contract expresses the complete agreement of the parties and, performance shall be governed solely by the specifications and requirements contained therein.

B. Any change to the contract, whether by modification and/or supplementation, must be accomplished by a formal contract amendment signed and approved by and between the duly authorized representative of the bidder and the City Purchasing Division or by a modified Purchase Order prior to the effective date of such modification. The bidder expressly and explicitly understands and agrees that no other method and/or no other document, including acts and oral communications by or from any person, shall be used or construed as an amendment or modification to the contract.

3.3.7 Time of Completion: The scheduled time of Completion for the Project is 124 Calendar Days from the starting date specified in the Notice to Proceed.

Completion is achieved when site cleanup and all punch list items (resulting from the final inspection) have been completed. Completion shall have the meaning set forth in Article I, Section 3 (Definitions and Terms) of the General Contract Conditions.

3.3.8 Working Days and Hours: The working days and hours shall be as stated in the General Contract Conditions or as mutually agreed upon in the preconstruction meeting with the following exception:

All work shall be performed between the hours of 7:00 AM to 5:00 PM.

3.3.9 Licenses and Permits: Contractor is responsible for obtaining all necessary licenses and permits required for Construction, at Contractors expense. See Section 2.12. Contractor shall supply to Owner all copies of finalized permits.

3.3.10 Permits: The following permits are required for the Project and will be obtained by the City at no cost to the Contractor:
None

The following permits are required for the Project and shall be obtained and paid for by the Contractor, with the costs included in the total bid price for the Project:
None

3.3.11 City Furnished Materials: The City will furnish the following materials for the Project:

- Door-hangers
- Detectable Warnings (Cast Iron Wet Set)

3.3.12 Project Newsletters: A newsletter for the Project will be prepared and distributed by the City. It will include general information about the Project including interruptions in utility services, street closures, parking restrictions, project schedule, and the names and telephone numbers of the contacts for the City and Contractor. The newsletter will be mailed approximately one week before the Contractor commences work.

The Contractor will be responsible for notifying all businesses and / or residents located adjacent to the work. Door hanger notifications shall be distributed at least two (2) working days prior to the day the work is scheduled to begin.

3.3.13 Project Sign: Project signs, if any, will be furnished and installed by the City.

3.3.14 Authorized Representatives of the City: Those authorized to represent the City shall include Purchasing Agent, Engineers, and Inspectors employed by the City, only.

3.3.15 Stockpiling Materials and Equipment: All stockpiling/storage shall be in accordance with General Contract Condition Section 51.

3.3.16 Traffic Control: The Contractor shall provide and maintain traffic control in accordance with the approved Traffic Control Plan and the Manual on Uniform Traffic Control Devices. A Traffic Control Plan shall be prepared by the Contractor and reviewed by the City two days prior to the pre-construction meeting.

3.3.17 Clean-Up: The Contractor is responsible for cleaning up all loose materials that have been deposited or swept into gutters, and onto sidewalks and driveways as a result of sidewalk operations. The costs for all clean-up work shall be considered incidental and will not be paid for separately.

3.3.18 Quality Control Testing: Supplier shall perform quality control testing on concrete. The City will perform all other necessary QA/QC.

- 3.3.19 Schedule of Submittals:** Contractor shall deliver these submittals at least two days prior to the pre-construction meeting:
- Traffic Control Plans
 - Project Schedule
- 3.3.20 Uranium Mill Tailings:** It is anticipated that radioactive mill tailings will not be encountered on this Project.
- 3.3.21 Fugitive Petroleum or Other Contamination:** It is anticipated that soil contamination from fugitive petroleum or other contaminants will not be encountered with the Project.
- 3.3.22 Excess Material:** All excess materials shall be disposed in accordance with General Contract Condition Section 50.
- 3.3.23 Existing Utilities and Structures:** Utilities were not potholed during design of this project. The location of existing utilities and structures shown on the Plans is approximate with the information gathered during design. It is the responsibility of the Contractor to pothole/locate and protect all structures and utilities in accordance with General Contract Condition Section 37.
- 3.3.24 Incidental Items:** Any item of work not specifically identified or paid for directly, but which is necessary for the satisfactory completion of any paid items of work, will be considered as incidental to those items, and will be included in the cost of those items.
- 3.3.25 Survey:** The Contractor shall give the City survey crew a minimum of 72 hours' notice for all requested survey.
- 3.3.26 Work to be Performed by the City (Prior to Construction):**
- Piping of open ditch
 - Storm inlet relocation
 - Shoulder widening
 - Sign removal and relocation
- 3.3.27 Existing Concrete Sidewalks, Pans, Fillets, Curbs and Gutters:** The existing sidewalks, pans, fillets, curb and gutter are in good serviceable condition. In most instances the installation of new sidewalk and pavement will be adjacent to existing concrete. The Contractor will need to protect all concrete adjacent to construction. If the concrete is damaged during construction the Contractor will be responsible for its replacement at no cost to the City. The Contractor, the City Project Inspector, and/or the City Project Manager will walk and record any concrete that is deemed to be damaged before construction has started.
- 3.3.28 ACI Concrete and Flatwork Finisher and Technician:** Hand finishing concrete will be permitted only when performed under the direct supervision of a craftsman holding the following certificate: ACI Concrete Flatwork Finisher and Technician (ACICFFT) or other Flatwork Finisher certification program approved by the City Engineering Manager.

3.4. SCOPE OF WORK: See attached Scope/Specification/Drawings.

3.5. Attachments:

Appendix A: Project Special Provisions and Standard Special Provisions

Appendix B: CDOT Forms

Attachment: Drawings/Scope/Specifications

3.6. Contractor Bid Documents: For Contractor's convenience, the following is a list of forms/items to be submitted with the Contractor's bid response. However, should a form/item not be listed in this section, but required in the solicitation documents, it is the Contractor's responsibility to ensure all forms/items are submitted.

- **Contractor's Bid Form**

- **Price Bid Schedule**

- **CDOT Forms**

605 – **Contractors Performance Statement**

606 – **Anti-Collusion Affidavit**

621 – **Assignment of Antitrust Claims**

1176 – **Stormwater Field Inspection Report**

1388 – **Daily Stormwater Log**

1413 – **Bidders List**

1414 – **Anticipated DBE Participation Plan**

1415 – **Commitment Confirmation**

1416 – **Good Faith Effort report**

205 – **Sublet Permit Application**

- **Sub-Contractor's Form**

3.7. IFB TENTATIVE TIME SCHEDULE:

Invitation For Bids available	November 27, 2017
Mandatory Pre-Bid Meeting	December 7, 2017
Inquiry deadline, no questions after this date	December 12, 2017
Addendum Posted	December 14, 2017
Submittal deadline for proposals	December 19, 2017
City Council Approval	January 17, 2018
Notice of Award & Contract execution	January 18, 2018
Bonding & Insurance Cert due	January 29, 2018
Preconstruction meeting	January 29, 2018
Work begins no later than	January 31, 2018
Expiration of USACE Nationwide Permit	March 18, 2018
Irrigation Flows Begin	April 1, 2018
Final Completion	124 Calendar Days from Notice to Proceed
Holidays:	President's Day – February 19, 2018 Memorial Day – May 28, 2018

4. Contractor's Bid Form

Bid Date: _____

Project: IFB-4426-17-DH "Lewis Wash Bridge Replacement GRJ F.5-30.8 Federal Aid Project #: BRO M555-031
Project Code: 20432"

Bidding Company: _____

Name of Authorized Agent: _____

Email _____

Telephone _____ **Address** _____

City _____ **State** _____ **Zip** _____

The undersigned Bidder, in compliance with the Invitation for Bids, having examined the Instruction to Bidders, General Contract Conditions, Statement of Work, Specifications, and any and all Addenda thereto, having investigated the location of, and conditions affecting the proposed work, hereby proposes to furnish all labor, materials and supplies, and to perform all work for the Project in accordance with Contract Documents, within the time set forth and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Contractor's Bid Form is a part.

The undersigned Contractor does hereby declare and stipulate that this offer is made in good faith without collusion or connection to any person(s) providing an offer for the same work, and that it is made in pursuance of, and subject to, all terms and conditions of the Instructions to Bidders, the Specifications, and all other Solicitation Documents, all of which have been examined by the undersigned.

The Contractor also agrees that if awarded the Contract, to provide insurance certificates within ten (10) working days of the date of Notification of Award. Submittal of this offer will be taken by the Owner as a binding covenant that the Contractor will be prepared to complete the project in its entirety.

The Owner reserves the right to make the award on the basis of the offer deemed most favorable, to waive any formalities or technicalities and to reject any or all offers. It is further agreed that this offer may not be withdrawn for a period of sixty (60) calendar days after closing time. Submission of clarifications and revised offers automatically establish a new thirty day (30) period.

Prices in the bid proposal have not knowingly been disclosed with another provider and will not be prior to award.

- Prices in this bid proposal have been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition.
- No attempt has been made nor will be to induce any other person or firm to submit a bid proposal for the purpose of restricting competition.
- The individual signing this bid proposal certifies they are a legal agent of the offeror, authorized to represent the offeror and is legally responsible for the offer with regard to supporting documentation and prices provided.
- Direct purchases by the City of Grand Junction are tax exempt from Colorado Sales or Use Tax. Tax exempt No. 98-903544. The undersigned certifies that no Federal, State, County or Municipal tax will be added to the above quoted prices.
- City of Grand Junction payment terms shall be Net 30 days.
- Prompt payment discount of _____ percent of the net dollar will be offered to the Owner if the invoice is paid within _____ days after the receipt of the invoice.

RECEIPT OF ADDENDA: the undersigned Contractor acknowledges receipt of Addenda to the Solicitation, Specifications, and other Contract Documents.

State number of Addenda received: _____.

It is the responsibility of the Bidder to ensure all Addenda have been received and acknowledged.
By signing below, the Undersigned agree to comply with all terms and conditions contained herein.

Company: _____

Authorized Signature: _____

Title: _____

Bid Schedule: 20432 Lewis Wash Bridge GRJ F.5-30.8

Company Name: _____

BRO M555-031 Project: 20432

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
1	201-00000	Clearing and Grubbing	0.17	ACRE	\$ _____	\$ _____
2	202-00020	Removal of Concrete Box Culvert (Twin CBC)	1.	LS	\$ _____	\$ _____
3	202-00070	Removal of Barricade	2.	EA	\$ _____	\$ _____
4	202-00200	Removal of Sidewalk	20.	SY	\$ _____	\$ _____
5	202-00220	Removal of Asphalt Mat	295.	SY	\$ _____	\$ _____
6	202-01000	Removal of Fence	26.	LF	\$ _____	\$ _____
7	202-01130	Removal of Guardrail Type 3	102.	LF	\$ _____	\$ _____
8	202-04060	Dust Abatement	1.	LS	\$ _____	\$ _____
9	202-05004	Saw Cut Concrete (4 inch)	14.	LF	\$ _____	\$ _____
10	203-00000	Unclassified Excavation	405.	CY	\$ _____	\$ _____
11	203-00100	Muck Excavation	55.	CY	\$ _____	\$ _____
12	206-00100	Structural Backfill Material (Class 1)	810.	CY	\$ _____	\$ _____
13	206-00510	Filter Material (Class A)	27.	CY	\$ _____	\$ _____
14	208-00002	Erosion Logs (12 Inch)	146.	LF	\$ _____	\$ _____
15	208-00045	Concrete Washout Structure	1.	EA	\$ _____	\$ _____
16	208-00070	Vehicle Track Pad	2.	EA	\$ _____	\$ _____
17	208-00103	Removal and Disposal of Sediment (Labor)	40.	HOUR	\$ _____	\$ _____
18	210-00050	Reset Fire Hydrant	1.	EA	\$ _____	\$ _____
19	210-01000	Reset Fence	26.	LF	\$ _____	\$ _____
20	210-02010	Relay Pipe (10 inch)(irrigation)	61.	LF	\$ _____	\$ _____
21	212-00007	Seeding(Native)(Hydraulic)	0.1	ACRE	\$ _____	\$ _____
22	240-00010	Removal of Nests	40.	HOUR	\$ _____	\$ _____
23	240-00020	Netting	50.	SY	\$ _____	\$ _____
24	304-03000	Aggregate Base Course (Class 3)	1,000.	CY	\$ _____	\$ _____
25	304-06000	Aggregate Base Course (Class 6)	300.	CY	\$ _____	\$ _____
26	403-34752	Hot Mix Asphalt (Patching)(Grading SX)(75)(PG 64-22)(6" Thick)	96.	TON	\$ _____	\$ _____
27	420-00103	Geotextile (Erosion Control) (Class 2)	255.	SY	\$ _____	\$ _____
28	506-00206	Riprap (6 Inch)	19.	CY	\$ _____	\$ _____
29	506-00212	Riprap (12 Inch)	200.	CY	\$ _____	\$ _____

Bid Schedule: 20432 Lewis Wash Bridge GRJ F.5-30.8

Company Name: _____

BRO M555-031 Project: 20432

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
30	515-00120	Waterproofing (membrane)	188.	SY	\$ _____	\$ _____
31	601-03030	Concrete Class D (Box Culvert)	235.	CY	\$ _____	\$ _____
32	601-03050	Concrete Class D (Wall)	69.	CY	\$ _____	\$ _____
33	602-00020	Reinforcing Steel (Epoxy Coated)	49,000.	LB	\$ _____	\$ _____
34	603-82004	4 Inch Ductile Iron Pipe (Gas Sleeve)	87.	LF	\$ _____	\$ _____
35	606-00310	Guardrail Type 3A	88.	LF	\$ _____	\$ _____
36	606-01385	Transition Type 3J	1.	EA	\$ _____	\$ _____
37	606-01390	End Anchorage Type 3K	1.	EA	\$ _____	\$ _____
38	606-00400	End Anchorage (Special)(NCHRP 350 TL-2)(25 Feet)	3.	EA	\$ _____	\$ _____
39	608-00000	Concrete Sidewalk (4 Inch)	94.5	SY	\$ _____	\$ _____
40	608-10000	Sidewalk Drain	5.5	LF	\$ _____	\$ _____
41	609-24000	Gutter Type 2 (Special)	155.5	LF	\$ _____	\$ _____
42	619-50480	6 Inch Plastic Pipe	137.	LF	\$ _____	\$ _____
43	619-51280	16 Inch Plastic Pipe	102.	LF	\$ _____	\$ _____
44	619-75048	6 Inch Butterfly Valve	1.	EA	\$ _____	\$ _____
45	619-76128	16 Inch Butterfly Valve	1.	EA	\$ _____	\$ _____
46	620-00020	Sanitary Facility	1.	EA	\$ _____	\$ _____
47	625-00000	Construction Surveying	Lump Sum		---	\$ _____
48	626-00000	Mobilization	Lump sum		---	\$ _____
49	627-00005	Epoxy Pavement Marking	4.	GAL	\$ _____	\$ _____
50	629-01006	Survey Monument (Type 6)	13.	EA	\$ _____	\$ _____
51	630-10005	Traffic Control	Lump sum		---	\$ _____
52	700-70010	F/A Minor Contract Revisions	---	---	---	\$ 30,000.00
53	700-70170	F/A Pothole Utilities	40.	HOUR	\$ _____	\$ _____
54	700-70550	F/A Blading	40.	HOUR	\$ _____	\$ _____
55	900-00005	School Bus Route	49.	DAY	\$ 200.00	\$ _____

Bid Amount: \$ _____

Bid Amount: _____

dollars

Sub-Contractor's Form

The undersigned Bidder proposes to subcontract the following portion of Work:

Name & address of Sub-Contractor	Description of work to be performed	% of Contract
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The undersigned Bidder acknowledges the right of the City to reject any and all Bids submitted and to waive informalities and irregularities therein in the City's sole discretion.

By submission of the Bid, each Bidder certifies, and in the case of a joint Bid each party thereto certifies as to his own organization, that this Bid has been arrived at independently, without collusion, consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.

Appendix A
Project Special Provisions and Standard
Special Provisions

COLORADO
DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS
20432 LEWIS WASH BRIDGE GRJ F.5-30.8

The 2017 Standard Specifications for Road and Bridge Construction controls construction of this project. The following special provisions supplement or modify the Standard Specifications and take precedence over the Standard Specifications and plans.

PROJECT SPECIAL PROVISIONS

		<u>Page</u>
Index Pages	(October 12, 2017)	1-2
Notice to Bidders	(October 12, 2017)	3
Commencement and Completion of Work	(October 12, 2017)	4
Disadvantaged Business Enterprise (DBE) Contract Goal	(October 12, 2017)	5
On the Job Training Contract Goal	(October 12, 2017)	6
Revision of Section 102 – Project Plans and Other Data	(October 12, 2017)	7
Revision of Section 107 – Stormwater Construction Permit	(October 12, 2017)	8
Section 240-Protection of Migratory Birds	(October 12, 2017)	9-11
Revision of Section 304 – Aggregate Base Course	(October 12, 2017)	12
Revision of Section 403 – Hot Mix Asphalt	(October 12, 2017)	13-15
Force Account Items	(October 12, 2017)	16
Traffic Control Plan – General	(October 12, 2017)	17
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COLORADO
 DEPARTMENT OF TRANSPORTATION
 SPECIAL PROVISIONS
 20432 LEWIS WASH BRIDGE GRJ F.5-30.8
 STANDARD SPECIAL PROVISIONS

Name	Date	No. of Pages
Revision of Section 103 – Consideration of Proposals	(July 3, 2017)	1
Revision of Section 105 – Conformity to the Contract of Portland Cement Concrete Pavement	(July 3, 2017)	1
Revision of Section 105 – Construction Drawings	(July 3, 2017)	1
Revision of Section 105 – Disputes and Claims for Contract Adjustments	(July 3, 2017)	17
Revision of Section 106 – Conformity to the Contract of Hot Mix Asphalt (Less than 5000 Tons)	(July 3, 2017)	3
Revision of Section 106 – Supplier List	(July 3, 2017)	1
Revision of Section 107 – Laws to be Observed	(October 12, 2017)	1
Revision of Sections 107 and 208 – Water Quality Control under One Acre of Disturbance	(July 3, 2017)	4
Revision of Section 108 – Liquidated Damages	(July 20, 2017)	1
Revision of Section 108 - Payment Schedule (Single Fiscal Year)	(July 3, 2017)	1
Revision of Section 108 – Subletting of Contract	(October 12, 2017)	1
Revision of Section 109 – Prompt Payment (Local Agency)	(July 3, 2017)	2
Revision of Section 206 – Removability Modulus	(October 12, 2017)	1
Revision of Section 208 – Erosion Control	(July 3, 2017)	1
Revision of Section 250 – Environmental, Health and Safety Management	(July 3, 2017)	3
Revision of Section 625 – Construction Surveying	(July 3, 2017)	1
Revision of Section 703 - Aggregate for Bases (RAP Allowed)	(July 3, 2017)	1
Revision of Section 703 - Classification for Aggregate Base Course	(October 12, 2017)	1
Affirmative Action Requirements – Equal Employment Opportunity	(July 3, 2017)	10
Disadvantaged Business Enterprise (DBE) Requirements (Local Agency)	(July 3, 2017)	9
Minimum Wages, Colorado, U.S. Department of Labor General Decision Number CO170024, MOD 1, Highway Construction for Larimer, Mesa, and Weld counties.	(June 9, 2017)	7
On the Job Training	(July 3, 2017)	3
Required Contract Provisions – Federal-Aid Construction Contracts	(July 3, 2017)	14
Special Construction Requirements, Fire Protection Plan	(July 3, 2017)	2

NOTICE TO BIDDERS

The proposal guaranty shall be a certified check, cashier's check, or bid bond in the amount of 5 percent of the Contractor's total bid.

Pursuant to subsections 102.04 and 102.05, it is recommended that bidders on this project review the work site and plan details with an authorized Department representative. Prospective bidders shall contact one of the following listed authorized Department representatives at least 12 hours in advance of the time they wish to go over the project.

Senior Buyer/Purchaser -

Office Phone:

Email:

Duane Hoff Jr.

(970) 244-1545

duaneh@gjcity.org

The above referenced individuals are the only representatives of the Department with authority to provide any information, clarification, or interpretation regarding the plans, specifications, and any other contract documents or requirements.

Mandatory Pre-Bid Meeting: Prospective bidders are required to attend a mandatory pre-bid meeting on November 15, 2017 at 10:00am. Meeting location shall be in the Lewis Wash bridge located on F ½ Road between 30 Road and 31 Road. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).

Questions received from bidders along with City and CDOT responses will be posted on the City web site listed below as they become available.

<http://www.gjcity.org/business-and-economic-development/bids/>

If the bidder has a question or requests clarification that involves the bidder's innovative or proprietary means and methods, phasing, scheduling, or other aspects of construction of the project, the Senior Buyer will direct the question to the Project Engineer to address the question or clarification. The Project Engineer will keep the bidder's innovation confidential and will not share this information with other bidders.

The Senior Buyer, Engineering Manager, or Project Engineer will determine whether questions are innovative or proprietary in nature. If the Project Engineer determines that a question does not warrant confidentiality, the bidder may withdraw the question. If the bidder withdraws the question, the Project Engineer will not answer the question and the question will not be documented on the City's web site. If the bidder does not withdraw the question, the question will be answered, and both the question and answer will be posted on the web site. If the Senior Buyer agrees that a question warrants confidentiality, the Senior Buyer will answer the question, and keep both question and answer confidential. The City and CDOT will keep a record of both question and answer in their confidential file.

All questions shall be directed to the City contacts listed above no later than 7:00 A.M. Monday of the week of bid opening. Final questions and answers will be posted no later than Tuesday morning of bid opening week.

Questions and answers shall be used for reference only and shall not be considered part of the Contract.

The Contractor shall commence work under the Contract on or before the 15th day following Contract execution or the 30th day following the date of award, whichever comes later, unless such time for beginning the work is changed by the Chief Engineer in the "Notice to Proceed." The Contractor shall complete all work for Schedule and Alternate A (as may be awarded) **within 124 calendar days** in accordance with the "Notice to Proceed."

Supplying of materials before the beginning date is subject to the Engineer's approval. If such approval is given, stockpiled material will be paid for in accordance with Sections 109 and 626.

NOTICE TO BIDDERS

Section 108 of the Standard Specifications is hereby revised for this project as follows:

Subsection 108.03 shall include the following:

Salient features for this project are:

- (1) Clearing and grubbing
- (2) Preliminary BMP's
- (3) Removal of CBC
- (4) Construction of CBC
- (5) Concrete work
- (6) Asphalt patching
- (7) Irrigation reconnection
- (8) Permanent BMP installation

FEDERAL PROJECT No.: BRO M555-031
PROJECT CODE: 20432

October 12, 2017

DISADVANTAGED BUSINESS ENTERPRISE (DBE) CONTRACT GOAL

This is a federally-assisted construction project. As described in the CDOT DBE Standard Special Provision, the Bidder shall make good faith efforts to meet the following contract goal:

5.0% Percent DBE participation.

ON THE JOB TRAINING CONTRACT GOAL

The Department has determined that On the Job Training shall be provided to trainees with the goal of developing full journey workers in the types of trade or classification involved. The contract goal for On the Job Trainees working in an approved training plan in this Contract has been established as follows:

Minimum number of total On the Job Training required 0 hours

REVISION OF SECTION 102
PROJECT PLANS AND OTHER DATA

Section 102 of the Standard Specifications is hereby revised for this project as follows:

Subsection 102.05 shall include the following:

Plans, Specifications and other Bid Documents are available for review or download on the Public Works and Planning/Engineering page at www.gjcity.org. Electronic copies may be obtained on a CD format at the Department of Public Works and Planning at City Hall.

Complete sets of the *Bid Documents* may be reviewed at the Administration Office of the Department of Public Works and Planning at City Hall, 250 North 5th Street, Grand Junction, Colorado 81501.

Complete sets of *Bid Documents* shall be used in preparing Bids; neither City nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of *Bid Documents*.

City and Engineer in making copies of *Bid Documents* available on the above terms do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

REVISION OF SECTION 107
STORMWATER CONSTRUCTION PERMIT

Section 107 of the Standard Specifications is hereby revised for this project as follows:

Subsection 107.25(c) shall include the following:

The Colorado Discharge Permit System Stormwater Construction Permit (CDPS-SCP) shall be obtained by the Contractor.

SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY A CDOT BIOLOGIST

Section 240 is hereby added to the Standard Specifications for this project as follows:

DESCRIPTION

240.01 This work consists of protecting migratory birds during construction.

MATERIALS AND CONSTRUCTION REQUIREMENTS

240.02 The Contractor shall schedule clearing and grubbing operations and work on structures to avoid taking (pursue, hunt, take, capture or kill; attempt to take, capture, kill or possess) migratory birds protected by the Migratory Bird Treaty Act (MBTA).

(a) *Vegetation Removal.* When possible, vegetation shall be cleared prior to the time active nests are present. Vegetation removal activities shall be timed to avoid the migratory bird breeding season which begins on April 1 and runs to August 31. All areas scheduled for clearing and grubbing between April 1 and August 31 shall first be surveyed within the work limits by a CDOT biologist for active migratory bird nests. The CDOT biologist will also survey for active migratory bird nests within 50 feet outside of the work limits. Project personnel shall enter areas outside CDOT right of way only if a Form 730, *Permission to Enter Property*, has been signed by the property owner. The Contractor shall avoid all active migratory bird nests. The Contractor shall avoid the area within 50 feet of the active nests or the area within the distance recommended by the biologist until all nests within that area have become inactive. Inactive nest removal and other necessary measures shall be incorporated into the work as follows:

1. *Tree and Shrub Removal or Trimming.* Tree and shrub removal or trimming shall occur before April 1 or after August 31 if possible. If tree and shrub removal or trimming will occur between April 1 and August 31, a survey for active nests will be conducted by the CDOT biologist within the seven days immediately prior to the beginning of work in each area or phase of tree and shrub removal or trimming. The Contractor shall notify the Engineer at least ten working days in advance of the need for the CDOT biologist to perform the survey.

If an active nest containing eggs or young birds is found, the tree or shrub containing the active nest shall remain undisturbed and protected until the nest becomes inactive. The nest shall be protected by placing fence (plastic) a minimum distance of 50 feet from each nest to be undisturbed. This buffer dimension may be changed if determined appropriate by the CDOT biologist and approved by the Engineer. Work shall not proceed within the fenced buffer area until the young have fledged or the nests have become inactive.

If the fence is knocked down or destroyed by the Contractor, the Engineer will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges, but will be charged as contract time.

2. *Grasses and Other Vegetation Management.* Due to the potential for encountering ground nesting birds' habitat, if work occurs between April 1 and August 31, the area shall be surveyed by the CDOT biologist within the seven days immediately prior to ground disturbing activities. The Contractor shall notify the Engineer at least ten working days in advance of the need for the CDOT biologist to perform the survey.

The undisturbed ground cover to 50 feet beyond the planned disturbance, or to the right of way line, whichever is less, shall be maintained at a height of 6 inches or less beginning April 1 and continuing until August 31 or until the end of ground disturbance work, whichever comes first.

SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY A CDOT BIOLOGIST

If birds establish a nest within the survey area, an appropriate buffer of 50 feet will be established around the nest by the CDOT biologist. This buffer dimension may be changed if determined appropriate by the CDOT biologist and approved by the Engineer. The Contractor shall install fence (plastic) at the perimeter of the buffer. Work shall not proceed within the buffer until the young have fledged or the nests have become inactive.

If the fence is knocked down or destroyed by the Contractor, the Engineer will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges, but will be charged as contract time.

- (b) *Work on structures.* The Contractor shall prosecute work on structures in a manner that does not result in a taking of migratory birds protected by the Migratory Bird Treaty Act (MBTA). The Contractor shall not prosecute the work on structures during the primary breeding season, April 1 through August 31, unless he takes the following actions:
- (1) The Contractor shall remove existing nests prior to April 1. If the Contract is not awarded prior to April 1 and CDOT has removed existing nests, then the monitoring of nest building shall become the Contractor's responsibility upon the Notice to Proceed.
 - (2) During the time that the birds are trying to build or occupy their nests, between April 1 and August 31, the Contractor shall monitor the structures at least once every three days for any nesting activity.
 - (3) If birds have started to build any nests, the nests shall be removed before they are completed. Water shall not be used to remove the nests if nests are located within 50 feet of any surface waters.
 - (4) Installation of netting may be used to prevent nest building. The netting shall be monitored and repaired or replaced as needed. Netting shall consist of a mesh with openings that are $\frac{3}{4}$ inch by $\frac{3}{4}$ inch or less.

If an active nest becomes established, i.e., there are eggs or young in the nest, all work that could result in abandonment or destruction of the nest shall be avoided until the young have fledged or the nest is unoccupied as determined by the CDOT Biologist and approved by the Engineer. The Contractor shall prevent construction activity from displacing birds after they have laid their eggs and before the young have fledged.

If the project continues into the following spring, this cycle shall be repeated. When work on the structure is complete, the Contractor shall remove and properly dispose of netting used on the structure.

- (c) *Taking of a Migratory Bird.* The taking of a migratory bird shall be reported to the Engineer. The Contractor shall be responsible for all penalties levied by the U. S. Fish and Wildlife Service (USFWS) for the taking of a migratory bird.

METHOD OF MEASUREMENT

240.03 Removal of nests will be measured by the actual number of man-hours spent removing inactive nests just prior to and during the breeding season, April 1 through August 31. During this period, the Contractor shall submit to the Engineer each week for approval a list of the workers who removed nests and the number of hours each one spent removing nests.

Netting will be measured by the square yard of material placed to keep birds from nesting on the structure. Square yards will be calculated using the length of netting measured where it is attached to the ground and the average height of the netting where it is attached to the structure.

SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY A CDOT BIOLOGIST

BASIS OF PAYMENT

240.04 The accepted quantities measured as provided above will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule.

Payment will be made under:

Pay Item	Pay Unit
Removal of Nests	Hour
Netting	Square Yard

Payment for Removal of Nests will be full compensation for all work and material required to complete the work.

Payment for netting will be full compensation for all work and material required to complete the item. Overlaps of netting will not be measured and paid for separately, but shall be included in the work. Maintenance and replacement, removal, and disposal of netting will not be measured and paid for separately, but shall be included in the work.

Clearing and grubbing will be measured and paid for in accordance with Section 201. Mowing will not be measured and paid for separately, but shall be included in the work.

Removal and trimming of trees will be measured and paid for in accordance with Section 202.

Fence (Plastic) will be measured and paid for in accordance with Section 607.

REVISION OF SECTION 304
AGGREGATE BASE COURSE

Section 304 of the Standard Specifications is hereby revised for this project as follows:

Subsection 304.02 shall include the following:

Materials for the base course shall be Aggregate Base Course (Class 6) as shown in subsection 703.03

The aggregate base course (Class 6) must meet the gradation requirements and have a resistance value of at least 78 respectively when tested by the Hveem Stabilometer method.

REVISION OF SECTION 403
 HOT MIX ASPHALT

Section 403 of the Standard Specifications is hereby revised for this project as follows:

Subsection 403.02 shall include the following:

The design mix for hot mix asphalt shall conform to the following:

Table 403-1		
Property	Test Method	Value For Grading
		Patching
Air Voids, percent at: N (design)	CPL 5115	3.5 – 4.5
Lab Compaction (Revolutions): N (design)	CPL 5115	75
Stability, minimum	CPL 5106	28
Aggregate Retained on the 4.75 mm (No. 4) Sieve for S, SX and SG, and on the 2.36mm (No. 8) Sieve for ST and SF with at least 2 Mechanically Induced fractured faces, % minimum*	CP 45	60
Accelerated Moisture Susceptibility Tensile Strength Ratio (Lottman), minimum	CPL 5109 Method B	80
Minimum Dry Split Tensile Strength, kPa (psi)	CPL 5109 Method B	205 (30)
Grade of Asphalt Cement, Top Layer		PG 64-22
Grade of Asphalt Cement, Layers below Top		PG 64-22
Voids in the Mineral Aggregate (VMA) % minimum	CP 48	See Table 403-2
Voids Filled with Asphalt (VFA), %	AI MS-2	65 - 80
Dust to Asphalt Ratio		
Fine Gradation	CP 50	0.6 - 1.2
Coarse Gradation		0.8 – 1.6

PROJECT CODE: 20432		Table 403-1	
Property	Test Method	Value For Grading	
		Patching	
Note:	AI MS-2 = Asphalt Institute Manual Series 2		
Note:	Mixes with gradations having less than 40% passing the 4.75 mm (No. 4) sieve shall be approached with caution because of constructability problems.		
Note:	Gradations for mixes with a nominal maximum aggregate size of one-inch or larger are considered a coarse gradation if they pass below the maximum density line at the #4 screen.		
	Gradations for mixes with a nominal maximum aggregate size of 3/4" to 3/8" are considered a coarse gradation if they pass below the maximum density line at the #8 screen.		
	Gradations for mixes with a nominal maximum aggregate size of #4 or smaller are considered a coarse gradation if they pass below the maximum density line at the #16 screen.		
*Fractured face requirements for SF may be waived by RME depending on project conditions.			

REVISION OF SECTION 403
 HOT MIX ASPHALT

All mix designs shall be run with a gyratory compaction angle of 1.25 degrees and properties must satisfy Table 403-1. Form 43 will establish construction targets for Asphalt Cement and all mix properties at Air Voids up to 1.0 percent below the mix design optimum. CDOT will establish the production asphalt cement and volumetric targets based on the Contractor’s mix design and the relationships shown between the hot mix asphalt mixture volumetric properties and asphalt cement contents on the Form 429. CDOT may select a different AC content other than the one shown at optimum on the Contractor’s mix design in order to establish the production targets as contained on the Form 43. Historically, Air Voids adjustments typically result in asphalt cement increases from 0.1 to 0.5 percent. Contractors bidding the project should anticipate this change and factor it into their unit price bid.

Table 403-2

Nominal Maximum Size*, mm (inches)	Minimum Voids in the Mineral Aggregate (VMA)			
	***Design Air Voids **			
	3.5%	4.0%	4.5%	5.0%
37.5 (1½)	11.6	11.7	11.8	N/A
25.0 (1)	12.6	12.7	12.8	
19.0 (¾)	13.6	13.7	13.8	
12.5 (½)	14.6	14.7	14.8	
9.5 (⅜)	15.6	15.7	15.8	
4.75 (No. 4)	16.6	16.7	16.8	16.9
	* The Nominal Maximum Size is defined as one sieve larger than the first sieve to retain more than 10%. ** Interpolate specified VMA values for design air voids between those listed. *** Extrapolate specified VMA values for production air voids beyond those listed.			

The Contractor shall prepare a quality control plan outlining the steps taken to minimize segregation of HMA. This plan shall be submitted to the Engineer and approved prior to beginning the paving operations. When the Engineer determines that segregation is unacceptable, the paving shall stop and the cause of segregation shall be corrected before paving operations will be allowed to resume.

CDOT approved Warm Mix Asphalt (WMA) may be allowed on this project in accordance with CP 59. Unique requirements for WMA design, production and acceptance testing as documented during CDOT WMA approval shall be submitted and approved prior to creation of the Form 43 and before any WMA production on the project. Delays to the project due to WMA submittal and review will be considered within the Contractor’s control and will be non-excusable.

REVISION OF SECTION 403
HOT MIX ASPHALT

Hot mix asphalt for patching shall conform to the gradation requirements for Hot Mix Asphalt (Grading 64-22).

Acceptance samples shall be taken at the location specified in either Method B or C of CP 41.

Subsection 403.03 shall include the following:

The Contractor shall use an approved anti-stripping additive. The amount of additive used shall be a minimum of 0.5 percent by weight of the asphalt cement. The additive shall be added at the refinery or at the hot plant. If liquid anti-stripping additive is added at the plant, an approved in-line blender must be used. The blender shall be in the line from the storage tank to the drier drum or pugmill. The blender shall apply sufficient mixing action to thoroughly mix the asphalt cement and anti-stripping additive.

The Contractor shall construct the work such that all roadway pavement placed prior to the time paving operations end for the year, shall be completed to the full thickness required by the plans. The Contractor's Progress Schedule shall show the methods to be used to comply with this requirement.

Delete subsection 403.05 and replace with the following:

403.05 The accepted quantities of hot mix asphalt will be paid for in accordance with subsection 401.22, at the contract unit price per ton for the bituminous mixture.

Payment will be made under:

Pay Item	Pay Unit
Hot Mix Asphalt (Patching) (Grading SX)(75)(PG64-22)	Ton

Aggregate, asphalt recycling agent, asphalt cement, additives, hydrated lime, and all other work and materials necessary to complete each hot mix asphalt item will not be paid for separately, but shall be included in the unit price bid. When the pay item includes the PG binder grade, any change to the submitted mix design optimum asphalt cement content to establish production targets on the Form 43 will not be measured and paid for separately, but shall be included in the work. No additional compensation will be considered or paid for any additional asphalt cement, plant modifications and additional personnel required to produce the HMA as a result in a change to the mix design asphalt cement content.

Historically, typical asphalt cement increases reflected on the Form 43 are from 0.1 to 0.5 percent. However, the Contractor should anticipate the AC increases typical of his mixes. Contractors bidding the project should anticipate this change and factor it into their unit price bid.

When the pay item does not include the PG binder grade, asphalt cement will be measured and paid for in accordance with Section 411. Asphalt cement used in Hot Mix Asphalt (Patching) will not be measured and paid for separately, but shall be included in the work.

Excavation, preparation, and tack coat of areas to be patched will not be measured and paid for separately, but shall be included in the work.

FORCE ACCOUNT ITEMS

DESCRIPTION

This special provision contains the Department's estimate for force account items included in the Contract. The estimated amounts will be added to the total bid to determine the amount of the performance and payment bonds. Force Account work shall be performed as directed by the Engineer.

BASIS OF PAYMENT

Payment will be made in accordance with subsection 109.04. Payment will constitute full compensation for all work necessary to complete the item.

Force account work valued at \$5,000 or less, that must be performed by a licensed journeyman in order to comply with federal, state, or local codes, may be paid for after receipt of an itemized statement endorsed by the Contractor.

<u>Force Account Item</u>	<u>Quantity</u>	<u>Estimated Amount</u>
F/A Minor Contract Revisions	F.A.	\$ 30,000.00
F/A Pothole Utilities	Hour	40
F/A Blading	Hour	40

TRAFFIC CONTROL PLAN - GENERAL

The key elements of the Contractor's method of handling traffic (MHT) are outlined in subsection 630.10(a).

The components of the TCP for this project are included in the following:

- (1) Subsection 104.04 and Section 630 of the specifications.
- (2) Standard Plan S-630-1, Traffic Controls for Highway Construction and Standard Plan S-630-2.
- (3) Schedule of Construction Traffic Control Devices.
- (4) Signing Plans.
- (5) Construction phasing details.
- (6) Detour Details.
- (7) Other.

Unless otherwise approved by the Engineer, the Contractor's equipment shall follow normal and legal traffic movements. The Contractor's ingress and egress of the work area shall be accomplished with as little disruption to traffic as possible. Traffic control devices shall be removed by picking up the devices in a reverse sequence to that used for installation. This may require moving backwards through the work zone. When located behind barrier or at other locations shown on approved traffic control plans, equipment may operate in a direction opposite to adjacent traffic.

CDOT may have entered into operating agreements with one or more law enforcement organizations for cooperative activities. Under such agreements, at the sole discretion of CDOT, law enforcement personnel may enter the work zone for enforcement purposes and may participate in the Contractor's traffic control activities. The responsibility under the Contract for all traffic control resides with the Contractor and any such participation by law enforcement personnel in Contractor traffic control activities will be referenced in either the Special Provisions or General Notes of the plans depending on whether the Contractor is to hire local law enforcement or if CDOT is contracting with Colorado State Patrol for uniformed traffic control. Nothing in this Contract is intended to create an entitlement, on the part of the Contractor, to the services or participation of the law enforcement organization.

Special Traffic Control Plan requirements for this project are as follows:

During the construction of this project, traffic shall use the present traveled roadway unless identified on the plans or approved by the Engineer.

The Contractor shall not have construction equipment or materials in the lanes open to traffic at any time, unless approved by the Engineer.

During the resurfacing work, only one lane may be closed to traffic at any time unless approved by the Engineer. Traffic shall not be delayed for more than 3 minutes or as directed by the Engineer.

At least one week prior to starting construction, the Contractor shall notify the City Engineer of the date the Contractor intends to start construction.

All costs incidental to the foregoing requirements shall be included in the original contract prices for the project.

UTILITIES

Known utilities within the limits of this project are:

Clifton Water
Xcel Energy – Gas
Century Link
Charter
Grand Valley Power

The work described in these plans and specifications requires coordination between the Contractor and the utility companies in accordance with subsection 105.11 in conducting their respective operations as necessary to complete the utility work with minimum delay to the project.

The work listed below shall be performed by the Contractor in accordance with the plans and specifications, and as directed by the Engineer. The Contractor shall keep each utility company advised of any work being done to its facility, so that the utility company can coordinate its inspections for final acceptance of the work with the Engineer.

FOR:

Clifton Water – David Reinertson – 970-434-7328
Charter – Jeff Valdez – 970-263-2314
Xcel Energy – Dan Steinkirchner – 970-244-2656
Century Link – Chris Johnson – 970-244-4311
Grand Valley Power – Perry Rupp – 970-242-0040
Mesa County Irrigation District – Dave Vorhees – 970-464-5154

The work listed below will be performed by the utility owners or their agents:

- Gas line - Capping of the gas line to perform the excavation of the structure. Reconnection of gas distribution line utilizing the sleeve installed by the contractor.
- Water line – The Contractor will coordinate with Clifton Water for installation of new 16” and 6” diameter water lines. The cost for the waterline installation will be negotiated outside the contract with the City of Grand Junction and may either be performed by the contractor or the utility provider.
- Century Link - Will relocate the pedestal either prior to or during construction.
- Charter – Will supply conduit to be installed by the contractor for future use.
- Grand Valley Power – Will supply conduit to be installed by the contractor for future use.

GENERAL:

The Contractor shall comply with Article 1.5 of Title 9, CRS ("Excavation Requirements") when excavation or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including the day of notification, prior to commencing such operations. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) at (8-1-1) or 1-800-922-1987 to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective company. Utility service laterals shall also be located prior to beginning excavating or grading.

The location of utility facilities as shown on the plan and profile sheets, and herein described, were obtained from the best available information.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work.

STANDARD SPECIAL PROVISIONS

July 3, 2017

REVISION OF SECTION 103
CONSIDERATION OF PROPOSALS

Section 103 of the Standard Specifications is hereby revised for this project as follows:

Delete subsection 103.01 and replace with the following:

103.01 Consideration of Proposals. After the proposals (bids) are opened and read, they will be evaluated and the Contract awarded or rejected in accordance with the "Rules" referenced in subsection 102.01

The low responsible bidder shall submit a completed CONTRACTORS PERFORMANCE CAPABILITY STATEMENT, Form 605, and a completed ASSIGNMENT OF ANTITRUST CLAIMS, Form 621 to the Award Officer prior to 4:30 P.M. on the fifth calendar day after the bid opening.

In order to be eligible for contracting with CDOT, the apparent low responsible bidder shall register with the B2GNow software system on or before the fifth calendar day after the bid opening and shall update the registration on an annual basis.

Failure to submit the Forms 605 and 621 and to register with the B2G Now software system may result in the denial of award to the apparent low responsible bidder and forfeiture of the proposal guaranty.

REVISION OF SECTION 105
CONFORMITY TO THE CONTRACT OF
PORTLAND CEMENT CONCRETE PAVEMENT

Section 105 of the Standard Specifications is hereby revised for this project as follows:

In subsection 105.06(a) delete the third paragraph and replace it with the following:

When compressive strength criteria is indicated, then the QL will be calculated for the elements of compressive strength and pavement thickness on a process basis. When flexural strength criteria is indicated, then the QL will be calculated for the elements of flexural strength and pavement thickness on a process basis. A process will consist of the test results from a series of random samples. Test results determined to have sampling or testing errors will not be used. All materials produced will be assigned to a process. Changes in mix design, design pavement thickness, or a break of more than 120 working days between placements will create a new process. The following is provided to clarify changes in processes for each element:

1. Construction of mainline pavement, including the shoulders if placed with the mainline, is a single process for the compressive or flexural strength element, when the mix design does not change and there is not a break of more than 120 days between placements.
2. Construction of mainline pavement, including the shoulders if placed with the mainline, is a single process for the thickness element, when the planned thickness does not change and there is not a break of more than 120 days between placements.
3. Construction of ramps, acceleration and deceleration lanes and shoulders placed separately are considered separate processes.
4. Changes in paving equipment, changes in placement method, changes in hauling equipment, adjustments to mix designs that do not require a new mix design, changes in weather conditions, and changes in production rate shall not create a new process in the strength or thickness elements.

The Contractor and Engineer will determine element processes and what distinguishes them as processes during the pre-pave meetings prior to any concrete placement.

July 3, 2017

REVISION OF SECTION 105
CONSTRUCTION DRAWINGS

Section 105 of the Standard Specifications is hereby revised for this project as follows:

Delete subsection 105.02(f).

July 3, 2017

REVISION OF SECTION 105
DISPUTES AND CLAIMS FOR CONTRACT ADJUSTMENTS

Section 105 of the Standard Specifications is hereby revised for this project as follows:

Subsection 105.22 shall include the following:

The following flow chart, Figure 105-1, provides a summary of the disputes and claims process described in subsections 105.22, 105.23, and 105.24.

REVISION OF SECTION 106
CONFORMITY TO THE CONTRACT OF HOT MIX ASPHALT
(LESS THAN 5000 TONS)

Section 106 of the Standard Specifications is hereby revised for this project as follows:

Delete subsection 106.05 and replace with the following:

106.05 Sampling and Testing of Hot Mix Asphalt. All hot mix asphalt, Item 403, except Hot Mix Asphalt (Patching) and temporary pavement shall be tested in accordance with the following program of process control testing and acceptance testing:

The Contract will specify whether process control testing by the Contractor is mandatory or voluntary.

(a) *Process Control Testing.*

1. **Mandatory Process Control.** When process control testing is mandatory the Contractor shall be responsible for process control testing on all elements and at the frequency listed in Table 106-1. Process control testing shall be performed at the expense of the Contractor.

After completion of compaction, in-place density tests for process control shall be taken at the frequency shown in Table 106-1. The results shall be reported in writing to the Engineer on a daily basis. Daily plots of the test results with tonnage represented shall be made on a chart convenient for viewing by the Engineer. All of the testing equipment used for in-place density testing shall conform to the requirements of acceptance testing standards, except nuclear testing devices need not be calibrated on the Department's calibration blocks.

For elements other than in-place density, results from process control tests need not be plotted, or routinely reported to the Engineer. This does not relieve the Contractor from the responsibility of performing such testing along with appropriate plant monitoring as necessary to assure that produced material conforms to the applicable specifications. Process control test data shall be made available to the Engineer upon request.

2. **Voluntary Process Control.** The Contractor may conduct process control testing. Process control testing is not required, but is recommended on the elements and at the frequency listed in Table 106-1.

All of the testing equipment used for in-place density testing shall conform to the requirements of acceptance testing standards, except nuclear testing devices need not be calibrated on the Department's calibration blocks.

- (b) *Acceptance Testing.* Acceptance testing is the responsibility of the Department. For acceptance testing the Department will determine the locations where samples or measurements are to be taken and as designated in Section 403. The maximum quantity of material represented by each test result, the elements, the frequency of testing and the minimum number of test results will be in accordance with Table 106-1. The location or time of sampling will be based on the stratified random procedure as described in CP 75. Acceptance sampling and testing procedures will be in accordance with the Schedule for Minimum Materials Sampling, Testing and Inspection in the Department's Field Materials Manual. Samples for project acceptance testing shall be taken by the Contractor in accordance with the designated method. The samples shall be taken in the presence of the Engineer. Where appropriate, the Contractor shall reduce each sample to the size designated by the Engineer. The Contractor may retain a split of each sample which cannot be included as part of the Contractor's process control testing. Dispute of the acceptance test results in accordance with CP-17 will not be allowed unless a provision for check testing has been included in the Contract and it has been successfully completed. All materials being used are subject to inspection and testing at any time prior to or during incorporation into the work.

2
 REVISION OF SECTION 106
 CONFORMITY TO THE CONTRACT OF HOT MIX ASPHALT
 (LESS THAN 5000 TONS)

**Table 106-1
 SCHEDULE FOR MINIMUM SAMPLING AND TESTING FOR HMA**

Element	Process Control	Acceptance ⁽¹⁾
Asphalt Content	1/500 tons	1/1000 tons
Theoretical Maximum Specific Gravity	1/1000 tons, minimum 1/day	1/1000 tons, minimum 1/day
Gradation ⁽²⁾	1/Day	1/2000 tons
In-Place Density	1/500 tons	1/500 tons
Joint Density	1 core/2500 linear feet of joint	1 core /5000 linear feet of joint
Aggregate Percent Moisture ⁽³⁾	1/2000 tons or 1/Day if less than 2000 tons	1/2000 tons
Percent Lime ⁽³⁾⁽⁴⁾	1/Day	Not applicable
Notes:		
<p>(1) The minimum number of in-place density tests for acceptance will be 5.</p> <p>(2) Process control tests for gradation are not required if less than 250 tons are placed in a day. The minimum number of process control tests for gradation shall be one test for each 1000 tons or fraction thereof.</p> <p>(3) Not to be used for incentive/disincentive pay. Test according to CP 60B and report results from Form 106 or Form 565 on Form 6.</p> <p>(4) Verified per Contractor's PC Plan.</p>		

- (c) *Reference Conditions.* Three reference conditions can exist determined by the Moving Quality Level (MQL). The MQL will be calculated in accordance with the procedure in CP 71 for Determining Quality Level (QL). The MQL will be calculated using only acceptance tests. The MQL will be calculated on tests 1 through 3, then tests 1 through 4, then tests 1 through 5, then thereafter on the last five consecutive test results. The MQL will not be used to determine pay factors. The three reference conditions and actions that will be taken are described as follows:
1. Condition green will exist for an element when an MQL of 90 or greater is reached, or maintained, and the past five consecutive test results are within the specification limits.
 2. Condition yellow will exist for all elements at the beginning of production or when a new process is established because of changes in materials or the job-mix formula, following an extended suspension of work, or when the MQL is less than 90 and equal to or greater than 65. Once an element is at condition green, if the MQL falls below 90 or a test result falls outside the specification limits, the condition will revert to yellow or red as appropriate.
 3. Condition red will exist for any element when the MQL is less than 65. The Contractor shall be notified immediately in writing and the process control sampling and testing frequency increased to a minimum rate of 1/250 tons for that element. The process control sampling and testing frequency shall remain at 1/250 tons until the process control QL reaches or exceeds 78. If the QL for the next five process control tests is below 65, production will be suspended.

REVISION OF SECTION 106
CONFORMITY TO THE CONTRACT OF HOT MIX ASPHALT
(LESS THAN 5000 TONS)

If gradation is the element with MQL less than 65, the Department will test one randomly selected sample in the first 1250 tons produced in condition red. If this test result is outside the tolerance limits, production will be suspended. (This test result will not be included as an acceptance test.)

After condition red exists, a new MQL will be started. Acceptance testing will stay at the frequency shown in Table 106-1. After three acceptance tests, if the MQL is less than 65, production will be suspended.

Production will remain suspended until the source of the problem is identified and corrected. Each time production is suspended, corrective actions shall be proposed in writing by the Contractor and approved in writing by the Engineer before production may resume.

Upon resuming production, the process control sampling and testing frequency for the elements causing the condition red shall remain at 1/250 tons. If the QL for the next five process control tests is below 65, production will be suspended again. If gradation is the element with MQL less than 65, the Department will test one randomly selected sample in the first 1250 tons produced in condition red. If this test result is outside the tolerance limits, production will be suspended.

July 3, 2017

REVISION OF SECTION 106
SUPPLIER LIST

Section 106 of the Standard Specifications is hereby revised for this project as follows:

In subsection 106.01 delete the fourth and 5th paragraphs and replace with the following:

All companies that will provide \$10,000 or more in supplies or materials on any CDOT project must be registered in the B2GNow software system and shall update the registration on an annual basis.

Prior to beginning any work on the project, the Contractor shall submit to the Engineer a completed Form 1425, Supplier List documenting all companies providing \$10,000 or more of supplies or materials directly to the Contractor for the project. This list shall not include companies also responsible for the installation of the supplies or materials. During the performance of the project, the Contractor shall submit an updated Form 1425 if one or more of these companies change.

The Contractor shall require each subcontractor to submit a Form 1425 listing all companies providing \$10,000 or more of supplies or materials to the subcontractor. The Contractor shall submit the subcontractor's Form 1425 with Form 205.

Failure to comply with the requirements of this subsection shall be grounds for withholding of progress payments.

October 12, 2017

REVISION OF SECTION 107
LAWS TO BE OBSERVED

Section 107 of the Standard Specifications is hereby revised for this project as follows:

Subsection 107.01 shall include the following after the first paragraph:

Failure to comply with all contractual obligations may lead to the suspension, debarment or both of the Contractor as stipulated in the "Rules".

REVISION OF SECTIONS 107 AND 208
WATER QUALITY CONTROL
UNDER ONE ACRE OF DISTURBANCE

Sections 107 and 208 of the Standard Specifications are hereby revised for this project as follows:

In subsection 107.25(b) 6 delete the second paragraph and replace it with the following:

The Contractor shall record the location of potential pollutants on the plans. Descriptions of the potential pollutants shall be submitted to and approved by the Engineer.

In subsection 208.03 delete the first paragraph and replace it with the following:

Prior to construction the Contractor shall implement BMPs in accordance with the approved project schedule as described in subsection in 208.03(b).

In subsection 208.03 delete the third, fourth, and fifth paragraphs and replace them with the following:

The Contractor shall evaluate all non-stormwater coming onto the site, such as springs, seeps, and landscape irrigation return flow. If such flow is identified, BMPs shall be used to protect off-site water from becoming contaminated with sediment or other pollutants.

The Contractor shall review existing inlets and culverts to determine if inlet protection is needed due to water flow patterns. Prior to beginning construction, inlets and culverts needing protection shall be protected and the location of the implemented BMP added to the plans.

When additional BMPs are required and approved by the Engineer, the Contractor shall implement the additional BMPs and shall record and describe them on the plans. The approved BMPs will be measured and paid for in accordance with subsections 208.11 and 208.12.

Delete subsections 208.03(c) and (d) and replace them with the following:

(c) *Implementation, Maintenance and Revision of the SWMP.*

The Contractor's responsibilities shall be as follows:

- (1) Install, construct, and maintain all BMPs specified in the Contract and coordinate the construction of BMPs with all other construction operations.
- (2) Implement suitable temporary erosion and sediment control features as necessary to correct unforeseen conditions or emergency situations. Dismantle those features when their purpose has been fulfilled unless the Engineer directs that the features be left in place.
- (3) Implement necessary actions to reduce anticipated or presently existing water quality or erosion problems resulting from construction activities.
- (4) Make available, all labor, material, and equipment needed to install, maintain, and remove BMPs.
- (5) The Contractor shall assign to the project an individual to serve in the capacity of Stormwater Administrator (SWMP Administrator). These duties may be assumed by the Superintendent. The SWMP Administrator shall be experienced in all aspects of construction and have satisfactorily completed a Transportation Erosion Control Supervisor Certification (TECS) training authorized by the Department. Proof that this requirement has been met shall be submitted to the Engineer prior to or at the preconstruction conference. A list of authorized TECS training programs will be provided by the Engineer upon request by the Contractor. The SWMP Administrator shall be the person responsible for ensuring that the responsibilities listed in (1) through (7) in (d) are fulfilled.

(d) *Documentation Available on the Project.* The following Contract documents and references will be made available for reference in one location on the project during construction.

1. Project Documents. The following documents shall be kept, maintained, and updated in a single notebook:
 - (1) SWMP Sheets
 - (2) SWMP site map, if applicable to the project.
 - (3) Details of BMPs used on the project not covered in Standard Plan M-208-1.

REVISION OF SECTIONS 107 AND 208
WATER QUALITY CONTROL
UNDER ONE ACRE OF DISTURBANCE

- (4) List of potential pollutants as described in subsection 107.25.
- (5) Spill Response Plan and reports of spills submitted to CDPHE.
- (6) Form 105s and all other correspondence relating to water quality.
- (7) Project environmental permits and associated applications and certifications.

2. Reference Materials

- (1) CDOT *Erosion Control and Stormwater Quality Guide*.
- (2) CDOT *Erosion Control and Stormwater Quality Field Guide*.
- (3) Copy of biological opinion, if applicable.

In subsection 208.04 delete the first and second paragraphs and replace them with the following:

The Contractor shall modify the SWMP to clearly describe and locate all BMPs implemented at the site to control potential sediment discharges from vehicle tracking.

Vehicle tracking pads shall be used at all vehicle and equipment access points to the site to prevent sediment exiting the project site onto paved public roads. Access shall be provided only at locations approved by the Engineer.

Delete subsection 208.04(e) and replace it with the following:

(e) *Stabilization*. Once earthwork has begun on a section, it shall be pursued until completion.

Clearing and grubbing operations shall be scheduled and performed so that grading operations and final stabilization measures can follow immediately thereafter if the project conditions permit. Otherwise temporary stabilization measures shall be taken between successive construction stages. Additional work required because the Contractor has failed to properly coordinate the entire erosion control schedule, thus causing previously seeded areas to be disturbed by operations that could have been performed prior to the seeding shall be performed at the Contractor's expense.

In subsection 208.06 delete the first paragraph and replace it with the following:

208.06 Materials Handling and Spill Prevention. The Contractor shall clearly describe and record on the SWMP, all practices implemented at the site to minimize impacts from procedures or significant material that could contribute pollutants to runoff. Areas or procedures where potential spills can occur shall have spill contingency plans in place as specified in subsections 107.25(b) 6 or 208.06(c).

In subsection 208.07 delete the second paragraph and replace it with the following:

Erodible stockpiles (including topsoil) shall be contained with acceptable BMPs at the toe (or within 20 feet of the toe) throughout construction. BMPs shall be approved by the Engineer.

In subsection 208.08, delete the first paragraph and replace it with the following:

The Contractor shall limit construction activities to those areas within the limits of disturbance shown on the plans and cross-sections. Construction activities, in addition to the Contract work, shall include the on-site parking of vehicles or equipment, on-site staging, on-site batch plants, haul roads or work access, and all other action which would disturb existing conditions. Off road staging areas must be pre-approved by the Engineer, unless otherwise designated in the Contract. Construction activities beyond the limits of disturbance due to Contractor negligence shall be restored to the original condition by the Contractor at the Contractor's expense. The Contractor shall tabulate additional disturbances not identified in the SWMP and indicate locations and quantities on the SWMP and report to the Engineer.

In subsection 208.06 (c), delete (1) and replace with the following:

- (1) Identification and contact information of the Contractor, CDOT spill cleanup coordinators and the SWMP Administrator.

REVISION OF SECTIONS 107 AND 208
WATER QUALITY CONTROL
UNDER ONE ACRE OF DISTURBANCE

In subsection 208.09, second paragraph, delete the list and replace it with the following:

- (1) Failure to include erosion control in the project schedule or failure to include erosion control in each schedule update as specified in subsection 208.03(b).
- (2) Failure of the Contractor to implement necessary actions required by the Engineer as required by subsection 208.03(c) 4.
- (3) Failure to amend SWMP and implement BMPs as required by subsection 208.04.
- (4) Failure to keep documentation and records current.
- (5) Failure to construct or implement erosion control or spill containment measures required by the Contract, or failure to construct or implement them in accordance with the Contractor's approved schedule as required by subsection 208.06(c).
- (6) Failure to stabilize disturbed areas as required by subsections 208.04(e) and 208.08.
- (7) Failure to replace or perform maintenance on an erosion control feature after notice from the Engineer to replace or perform maintenance as required by subsection 208.04(f).
- (8) Failure to remove and dispose of sediment from BMPs as required.
- (9) Failure to install and properly utilize a concrete washout structure for containing washout from concrete placement operations.
- (10) Failure to perform permanent stabilization as required by subsection 208.04 (e).

The Engineer will immediately notify the Contractor in writing of each incident of failure to perform erosion control in accordance with these specifications, including items (1) through (10) above. Correction shall be made as soon as possible but no later than 48 hours from the date of notification to correct the failure. The Contractor will be charged liquidated damages in the amount of \$970 for each day after the 48 hour period has expired, that one or more of the incidents of failure to perform the requirements for each notification, including items (1) through (10) above, remains uncorrected. Liquidated damages will begin at Midnight of the date the 48 hours has expired.

This deduction will not be considered a penalty, but will be considered liquidated damages based on estimated additional construction engineering costs. The liquidated damages will accumulate, for each cumulative day that one or more of the incidents remain uncorrected. The number of days for which liquidated damages are assessed will be cumulative for the duration of the project; that is: the damages for a particular day will be added to the total number of days for which liquidated damages are accumulated on the project. The liquidated damages will be deducted from any monies due the Contractor.

When a failure meets any one of the following conditions, the Engineer will immediately issue a Stop Work Order in accordance with subsection 105.01 irrespective of any other available remedy:

- (1) It may endanger health or the environment.
- (2) It consists of a spill or discharge of hazardous substances or oil which may cause pollution of the waters of the state.
- (3) It consists of a discharge which may cause an exceedance of a water quality standard.

If the Contractor requires more than 96 hours to perform the corrective work from the date on the Form 105, the Contractor shall submit a request for deferment. The deferment request shall be in writing and shall include the

REVISION OF SECTIONS 107 AND 208
WATER QUALITY CONTROL
UNDER ONE ACRE OF DISTURBANCE

specific failure, temporary measures until final correction is made, the methodology which will be employed to make the correction and interim milestones to completing the work. The Region Water Pollution Control Manager (RWPCM), Engineer, the SWMP Administrator and the Contractor shall concur on this deferral and set a proposed date of completion. If approved, the Contractor shall complete the corrective measures by Midnight of the proposed completion date. If corrective work is not corrected by the completion date the Engineer will issue a Stop Work Order. Liquidated Damages will apply retroactively back to the 48 hours after the 105 date of notification. Liquidated Damages will be assessed until the corrective work has been completed and accepted. .

Deferment of work to correct failure to perform erosion control will not affect the Contractor's other Contractual responsibilities, notifications for other non-compliance, nor the final completion date of the project. Liquidated damages for other non-compliance notifications will continue to apply during the deferment period in addition to liquidated damages associated with the deferment.

Based on the submittal date of the approved deferment Liquidated Damages and a Stop Work Order may not be mandated to the Contractor.

Disagreements regarding the suggested corrective action for a BMP compliance issue between the Engineer, SWMP Administrator, and Superintendent, shall be discussed with the Resident Engineer. If after the discussions, the SWMP Administrator, Engineer and the Contractor are still in disagreement and feel that additional compensation is owed, the Contractor will follow the decision of the Project Engineer, keep track of the costs and negotiate further with the Project Engineer. If after pursuing the issue, the Contractor is unable to reach agreement with the Project Engineer, then the Contractor can follow the dispute process outlined in subsection 105.22.

If the Contractor's corrective action plan and schedule are not submitted and approved within 96 hours of the initial notice, the Engineer will issue a Stop Work Order and have an on-site meeting with the Superintendent, SWMP Administrator. This meeting will also be attended by the Resident Engineer and the Region Program Engineer. This meeting will identify and document needed corrective actions and a schedule for completion. If after the meeting, the unacceptable work is not remedied within the schedule as agreed to in the meeting, the Engineer will take action to effect compliance by utilizing CDOT Maintenance personnel or other non-Contractor forces and deduct the cost from any moneys due or to become due to the Contractor pursuant to subsection 105.17. Delays due to these Stop Work Orders shall be considered non-excusable. The Stop Work Order shall be in place until the project is in compliance.

If the Contractor remains non-responsive to requirements of the on-site meeting, the Engineer will start default or Contract termination procedures in accordance with subsections 108.09 and 108.10. CDOT will proceed with corrective or disciplinary action in accordance with the Rules for Prequalification, Debarment, Bidding and Work on Transportation, Road, Highway and Bridge Public Projects. .

Delete subsection 208.10 and replace it with the following:

208.10 Items to Be Accomplished Prior to Requesting Partial Acceptance of Water Quality Work.

- (a) *Reclamation of Washout Areas.* After concrete operations are complete, washout areas shall be reclaimed in accordance with subsection 208.05(n) at the Contractor's expense.
- (b) *Survey.* The Contractor shall survey Permanent Water Quality BMPs (Permanent BMPs) on the project after they are constructed and confirm they are at final configuration and grade. The Engineer will identify which Permanent BMPs shall be surveyed prior to the final walk through. The survey shall be performed in accordance with Section 625.
- (c) *Removal of Temporary BMPs.* Temporary BMPs subject to removal will be determined by the Engineer at the final walk through of the project and shall be removed by the Contractor. If any temporary BMPs are left in place, the Region's Water Pollution Control Manager shall be notified of the BMP locations.

In subsection 208.12, delete the first paragraph and replace with the following:

SWMP Administrator duties on projects having less than one acre of total disturbed area will not be measured and paid for separately but shall be included in the work. The Erosion Control Management Pay Item will not

July 3, 2017

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REVISION OF SECTIONS 107 AND 208
WATER QUALITY CONTROL
UNDER ONE ACRE OF DISTURBANCE

apply to these projects.

July 20, 2017

REVISION OF SECTION 108
LIQUIDATED DAMAGES

Section 108 of the Standard Specifications is hereby revised for this project as follows:

In subsection 108.09 delete the schedule of liquidated damages and replace with the following:

Original Contract Amount (\$)		Liquidated Damages per Calendar Day (\$)
From More Than	To And Including	
0	500,000	900
500,000	1,000,000	1,500
1,000,000	2,000,000	2,200
2,000,000	5,000,000	4,100
5,000,000	15,000,000	5,500
15,000,000	-----	9,900

July 3, 2017

REVISION OF SECTION 108
PAYMENT SCHEDULE (SINGLE FISCAL YEAR)

Section 108 of the Standard Specifications is hereby revised for this project as follows:

Delete subsection 108.04, and replace with the following:

108.04 Payment Schedule. The Contractor shall prepare a payment schedule which shall show the dollar amount of work the Contractor expects to be complete within a single State Fiscal Year (July 1 to June 30). The schedule shall cover the period from the commencement of work to the expected completion date as shown on the Contractor's progress schedule. The payment schedule may be prepared using standard spreadsheet software such as MS Excel and submitted in electronic format.

The Contractor shall submit the payment schedule at the preconstruction conference.

The amounts shown shall include planned force account work and expected incentive payments.

If the Contractor fails to submit the payment schedule by the required date, the Engineer will withhold further progress payments until such time as the Contractor has submitted it.

October 12, 2017

REVISION OF SECTION 108
SUBLETTING OF CONTRACT

Section 108 of the Standard Specifications is hereby revised for this project as follows:

Subsection 108.01 shall include the following:

Failure to comply with all contractual obligations may lead to the suspension, debarment, or both of the subcontractor, and if necessary, the Contractor as stipulated in the "Rules".

All firms to which the Contractor will be subletting a portion of the Contract must be registered in the B2GNow Software System and shall update the registration on an annual basis. If the firm is not registered, approval of the Form 205 may be withheld.

1
REVISION OF SECTION 109
PROMPT PAYMENT
(LOCAL AGENCY)

Section 109 of the Standard Specifications is hereby revised for this project as follows:

Delete subsection 109.06(e) and replace with the following:

- (e) *Prompt Payment.* The Contractor shall pay subcontractors and suppliers for all work which has been satisfactorily completed within seven calendar days after receiving payment for that work from the Local Public Agency (LPA). For the purpose of this section only, work shall be considered satisfactorily complete when the LPA has made payment for the work. The Contractor shall include in all subcontracts a provision that this requirement for prompt payment to subcontractors and suppliers must be included in all subcontracts at every tier. The Contractor shall ensure that all subcontractors and suppliers at every tier are promptly paid. If the Contractor or its subcontractors fail to comply with this provision, the Engineer will not authorize further progress payment for work performed directly by the Contractor or the noncompliant subcontractor until the required payments have been made. The Engineer will continue to authorize progress payments for work performed by compliant subcontractors.

Delete subsection 109.06(f)5 and replace with the following:

5. In determining whether satisfactory completion has been achieved, the Contractor may require the subcontractor to provide documentation such as certifications and releases, showing that all laborers, lower-tiered subcontractors, suppliers of material and equipment, and others involved in the subcontractor's work have been paid in full. The Contractor may also require any documentation from the subcontractor that is required by the subcontract or by the Contract between the Contractor and the LPA or by law such as affidavits of wages paid, material acceptance certifications and releases from applicable governmental agencies to the extent that they relate to the subcontractor's work.

Delete subsection 109.06(f)8 and replace with the following:

8. If additional quantities of a particular item of work are required at a later date after final measurement has been made, the Contractor shall perform this work in accordance with Contract requirements and at unit bid prices.

For this subsection only, satisfactory completion of all work described on CDOT Form No. 205 is when all tasks called for in the subcontract as amended by changes directed by the Engineer have been accomplished and documented as required by the LPA.

The requirements stated above do not apply to retainage withheld by the LPA from monies earned by the Contractor. The LPA will continue to process the release of that retainage based upon the completion date of the project as defined in the Commencement and Completion of Work special provision.

Delete subsection 109.06(f)9 and replace with the following:

9. If during the prosecution of the project a portion of the work is partially accepted in accordance with subsection 105.21(a), the Contractor shall release all subcontractors' retainage on the portion of the partially accepted work performed by subcontractors. Prior to the LPA releasing the Contractor's retainage on work that has been partially accepted in accordance with subsection 105.21(a), the Contractor shall submit to the Engineer a certified statement for each subcontractor that has participated in the partially accepted work. The statement shall certify that the subcontractor has been paid in full for its portion of the partially accepted work including release of the subcontractor's retainage. The statement shall include the signature of a legally responsible official for the Contractor, and the signature of a legally responsible official for the subcontractor.

REVISION OF SECTION 109
PROMPT PAYMENT
(LOCAL AGENCY)

Delete subsection 109.06(g) and replace with the following:

- (g) *Good Cause Exception.* If the Contractor has “good cause” to delay or withhold a subcontractor’s progress payment, the Contractor shall notify the LPA and the subcontractor in writing within seven calendar days after receiving payment from the LPA. The notification shall specify the amount being withheld and provide adequate justification for withholding the payment. The notice shall also clearly state what conditions the subcontractor must meet to receive payment. “Good cause” shall include but not be limited to the failure of the subcontractor to make timely submission of required paperwork.

Delete subsection 109.06(h) and replace with the following:

- (h) *Monthly Reporting.* On a monthly basis, the Contractor shall submit the Form 1418, Monthly Payment Report, to the Engineer along with the project schedule updates, in accordance with subsections 108.03(g). Failure to submit a complete and accurate Form 1418 shall be grounds for CDOT to withhold subsequent payments or retainage from the Contractor.

REVISION OF SECTION 206
REMOVABILITY MODULUS

Section 206 of the Standard Specifications is hereby revised for this project as follows:
In subsection 206.02 (a) 2., delete the third paragraph and replace with the following

Removability Modulus, RM, is calculated as follows:

$$RM = \frac{W^{1.5} \times 104 \times C^{0.5}}{10^6}$$

where : **W = unit weight (pcf)**
C = 28-day compressive strength (psi)

2
REVISION OF SECTION 208
EROSION CONTROL

Section 208 of the Standard Specifications is hereby revised for this project as follows:

In subsection 208.03(c) delete the first paragraph and replace it with the following

Erosion Control Management (ECM). Erosion Control Management for this project shall consist of Erosion Control Inspection and the SWMP Administration. All ECM staff shall have working knowledge and experience in construction, and shall have successfully completed the Transportation Erosion Control Supervisory Certificate Training (TECS) as provided by the Department. The Superintendent will not be permitted to serve in an ECM role. The Erosion Control Inspector (ECI) and the SWMP Administrator may be the same person in projects involving less than 40 acres of disturbed area.

In subsection 208.03(c)1 delete the first paragraph and replace it with the following:

SWMP Administration. The SWMP shall be maintained by a SWMP Administrator. In the case of a project requiring only one TECS, the SWMP Administrator may also be the ECI for the project. The name of the SWMP Administrator shall be recorded on the SWMP Section 3. B. The SWMP Administrator shall have full responsibility to maintain and update the SWMP and identify to the Superintendent critical action items needed to conform to the CDPS-SCP as follows:

In subsection 208.03(c)2 delete the first paragraph and replace it with the following:

One ECI is required for every 40 acres of total disturbed area which is currently receiving temporary and interim stabilization measures as defined in subsection 208.04 (e). An ECI shall not be responsible for more than 40 acres in the project. Accepted permanent stabilization methods as defined in subsection 208.04 (e) will not be included in the 40 acres.

In subsection 208.03(d)1 delete item (1) and replace it with the following:

- (1) SWMP Site Maps and Plan Title Sheet - Construction site boundaries, ground surface disturbance, limits of cut and fill, flow arrows, structural BMPs, non-structural BMPs, Springs, Streams, Wetlands and surface water. Also included on the sheets is the protection of trees, shrubs and cultural resources.

In subsection 208.05(n), in the list of requirements for pre-fabricated concrete washout structures, delete item (2) and replace it with the following:

- (2) Structure shall be located 50 horizontal feet away from State waters, and shall be confined so that no potential pollutants will enter State waters and other sensitive areas are as defined in the Contract. Locations shall be as approved by the Engineer. The site shall be signed as "Concrete Washout".

In subsection 208.11 delete the first paragraph and replace it with the following:

Erosion Control Management will be measured as the actual number of days of ECM work performed, regardless of the number of personnel required for SWMP Administration and Erosion Control Inspection, including erosion control inspections, documentation, meeting participation, SWMP Administration, and the preparation of the SWMP notebook. If the combined hours of SWMP Administration and Erosion Control Inspection is four hours or less in a day, the work will be measured as ½ day. If the combined hours of SWMP Administration and Erosion Control Inspection is more than four hours in a day, the work will be measured as one day. Total combined hours of ECM work exceeding eight hours in a day will still be paid as one day.

REVISION OF SECTION 250 ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT

Section 250 of the Standard Specifications is hereby revised for this project as follows:

In subsection 250.03 delete the second paragraph and replace with the following:

This project may be in the vicinity of property associated with petroleum products, heavy metal based paint, landfill, buried foundations, abandoned utility lines, industrial area or other sites which can yield hazardous substances or produce dangerous gases. These hazardous substances or gases can migrate within or into the construction area and could create hazardous conditions. The Contractor shall use appropriate methods to reduce and control known landfill, industrial gases, and visible emissions from asbestos encounters and hazardous substances which exist or migrate into the construction area. The Contractor shall follow CDOT's *Regulated Asbestos-Contaminated Soil Management Standard Operating Procedure, dated October 18, 2016* for proper handling of asbestos-contaminated soil, and follow all applicable Solid and Hazardous Waste Regulations for proper handling of soils encountered that contain any other substance mentioned above.

In subsection 250.03(a) delete the second paragraph and replace with the following:

When regulated asbestos contaminated soil (RACS) is present or is suspected to be present on or near a project, the HSO shall have knowledge of RACS regulations. The HSO shall meet the minimum training and medical surveillance requirements established by the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) for a supervisory Site Safety Official per 29 CFR 1962.65. The Contractor shall furnish documentation to the Engineer, at the preconstruction conference, that the above requirements have been met. Certification as an Asbestos Building Inspector in accordance with subsection 250.03 (b) is recommended.

In subsection 250.03(b) delete the first and second paragraphs and replace with the following:

The Contractor shall designate a monitoring technician to be responsible for monitoring of hazardous substances during work on the project. The MT shall have a minimum of two years of actual field experience in assessment and remediation of hazardous substances that may be encountered during highway construction projects. When asbestos is present or is suspected to be present on or near a project, the MT shall have additional 40 hours experience in RACS project management and certification as an Asbestos Building Inspector in accordance with the Colorado Air Quality Control Commission Regulation No. 8 Part B. The MT shall be experienced in the operation of monitoring devices, identifying substances based upon experience and observation, and field sampling (for testing) of all media that may be found on the site. Completion of the 40 hour hazardous waste and 8 hour supervisory training required by OSHA and U.S. EPA rules and regulations which complies with the accreditation criteria under the provisions of the proposed 29 CFR 1910.121 is required prior to beginning work. The Contractor shall furnish documentation at the Preconstruction Conference that demonstrates these requirements have been met.

The MT shall be equipped with the following:

- (1) Communication equipment as required in subsection 250.03(d) 2.A. and a vehicle.
- (2) Monitoring and detection equipment for flammable gas, oxygen sufficiency, toxic gas, radiological screening and other hazards. This includes, as required, a combustible gas indicator, flame ionization or photo ionization detector, oxygen meter, radiation monitor with Geiger Mueller detector and other foreseeable equipment.
- (3) Depth gauging equipment, sampling equipment and sampling containers.
- (4) Personal protective equipment (levels C and D) when required.

Delete subsection 250.07 and replace with the following:

250.07 Regulated Asbestos Contaminated Soils (RACS) Management. Environmental documents or plans listed in the special provisions should include known or suspected locations that could involve encounters with RACS during excavation and other soil disturbing construction activities. Unexpected discoveries of RACS may occur during excavation and soil disturbing construction activities. RACS shall be properly managed or remediated, in accordance with subsection 250.07(a).

REVISION OF SECTION 250 ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT

All asbestos related activities shall be performed by CDPHE certified asbestos professionals, contractors, or consultants. Certifications are issued by the CDPHE, Indoor Air Quality Unit. A Colorado Certified Asbestos Building Inspector shall manage the assessment and disposal of RACS and other ACM. The Indoor Air Quality Unit within CDPHE is the only unit that certifies such professionals. The Contactor shall furnish a copy of the certification to the Engineer.

- (a) *Regulatory Compliance.* RACS management is governed by 6 CCR 1007-2, Section 5.5, which includes and references regulatory compliance with Colorado Air Quality Control Commission *Regulation* No. 8 Part B-Asbestos. Colorado Regulation No. 8 governs all asbestos activities, demolition, permitting, and certification of Certified Asbestos Professionals in the State of Colorado. The Contractor shall conform to all current regulations, policy directives, or both, issued by the CDPHE, and the Department.
- (b) *Asbestos Management and Visual Inspections* Asbestos management shall be performed by a CDPHE certified asbestos building inspector. All inspections of the area of asbestos contaminated soil removal shall be performed by a CDPHE certified Asbestos Building Inspector to determine what, if any, controls must be instituted to allow future activity in the excavation area.
- (c) *Permitting and Notification.* The CDPHE requires notification of any soil disturbing activity where asbestos is known, suspected, or discovered. A 24-hour notification to CDPHE is required after any soil disturbing activity of an unplanned asbestos discovery. A 10 working day notification to CDPHE is required prior to any soil disturbing activity in an area with known or potential RACS. Removal of asbestos-containing material on a facility component, that is located on or in soil that will be disturbed, with asbestos quantities above the following trigger levels shall be permitted and abated in accordance with the requirements of Colorado Air Quality Control Commission Regulation No. 8 (5 CCR 1001-10, Part B):
 - (1) 260 linear feet on pipes,
 - (2) 160 square feet on other surfaces, or
 - (3) The volume of a 55-gallon drum.

All permit applications shall be submitted to the Colorado Department of Public Health and Environment a minimum of 10 days prior to start of work for approval. The permit application and notification shall be submitted simultaneously. A CDPHE certified General Abatement Contractor shall obtain all required State and local permits and shall be responsible for all associated fees. Permit application, notification, and waiver request forms shall be submitted to:

Colorado Department of Public Health and Environment Permit Coordinator/APCD - SS - B1 4300
Cherry Creek Drive South Denver, CO 80246-1530 Phone: (303) 692-3100 Fax: (303) 782-0278

Application and waiver forms are available on the CDPHE website: asbestos@state.co.us

- (d) *CDOT's Regulated Asbestos-Contaminated Soil Management Standard Operating Procedure, dated October 18, 2016.* Asbestos contaminated soil shall be managed in accordance with 6 CCR 1007-2, Part 1, Section 5.5, Management of RACS. . Regulations apply only upon unexpected discovery of asbestos materials during excavation and soil disturbing activities on construction projects, or when asbestos encounters are expected during construction. The Contractor shall comply with procedures detailed in the *CDPHE's Management of Regulated Asbestos Contaminated Soil Regulation* and CDOT's CDPHE approved *Regulated Asbestos-Contaminated Soil Management Standard Operating Procedure, dated October 18, 2016*, including the following minimum requirements:
 - (1) Immediate actions and implementation of interim controls to prevent visible emissions, exposure, and asbestos contamination in surrounding areas.
 - (2) Soil Characterization.

REVISION OF SECTION 250
ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT

- (3) Training required for all personnel involved in excavation and other soil disturbing activities, once asbestos is encountered during construction or on projects where asbestos encounters are expected. Asbestos Awareness Training shall be given by a qualified and certified Asbestos Building Inspector with a minimum of six months experience inspecting asbestos contaminated soil.
 - (4) Assessment for the presence and extent, within the proposed area of disturbance, of asbestos discoveries, whether expected or unexpected, by a CDPHE Certified Asbestos Building Inspector.
 - (5) Investigation and sampling required for risk assessment and management. Investigation, if required, shall be conducted by a CDPHE Certified Asbestos Building Inspector.
 - (6) Risk assessment and determinations for further management or abatement.
 - (i) Risk assessment and determinations must be made by a CDPHE Certified Asbestos Building Inspector, and coordinated with the Engineer.
 - (ii) Soil remediation is not necessarily required, depending on the circumstances.
 - (7) Submit CDPHE 24-hour Notification form for unexpected RACS discovery included in Attachment 1 of the CDOT Regulated Asbestos-Contaminated Soil Management Standard Operating Procedure
 - (8) Submit CDPHE 10-day Notification form for planned RACS management included in Attachment 1 of the CDOT Regulated Asbestos-Contaminated Soil Management Standard Operating Procedure.
- (e) *Risk Assessment and Determinations for Further Management Or Remediation.* Risk assessment and determinations for further management or remediation must be closely coordinated with the Project Engineer and Project Manager of the Statewide Management Plan.

REVISION OF SECTION 625
CONSTRUCTION SURVEYING

Section 625 of the Standard Specifications is hereby revised for this project as follows:

Subsection 625.01 shall include the following:

If the Revision of Section 102 Project Plans and Other Data states 3D modeling data is available, the Contractor may choose to perform 3D Engineered Construction Surveying (3DECS).

3DECS is the use of global positioning and or robotic instruments to guide construction equipment operations by comparing 3D model information in real time. For 3DECS, either the construction equipment is fed modeling information and makes automatic adjustments (machine control) or the equipment operator is fed the information and makes manual adjustments.

In subsection 625.04, delete the first paragraph and replace with the following:

The Contractor shall perform all construction surveying and staking necessary for construction of the project. Construction surveying and staking shall be based on the Primary Horizontal and Vertical Control established by the Department. Bid items which require stakes to be set by the Contractor's Surveyor are shown on the Surveyor Tabulation Sheet of the plans and shall be in accordance with the CDOT Survey Manual Chapter 6.

If the Contractor uses 3D Engineered Surveying the following shall apply:

- (1) All surveying shall be based on the Primary Horizontal and Vertical Control established by the Department.
- (2) The Contractor shall provide construction stakes for the control points of the project centerline or Engineer approved offset line (i.e. POT, POC, PCC, PC, PT, TS, ST, SC, CS per the Survey Manual) and angle points, all of which shall be established from primary control monuments and their assigned coordinates as shown on the plans.
- (3) Staking for the project centerline or offset, shall be established from the project centerline control points as shown on the plans in order to provide a method of machine control equipment checks, inspection, and field verification.
- (4) The maximum staking interval for the project centerline shall be 500 feet on tangents and 100 feet on curves or as specified on the survey tabulation sheet. All project centerline control points as shown on the plans shall be staked.
- (5) Within the first week of the Contractor utilizing 3DECS, the Contractor shall check their 3DECS system and verify on writing to CDOT that the accuracy of the system complies with the contract requirements.

At no cost to the Department, the Contractor shall revert to traditional surveying and disband using 3DECS should the Engineer determine the existence of contractor quality or accuracy issues related to 3DECS.

Subsection 625.06 shall include the following:

3D Engineered surveying accuracy and tolerances shall be the same as the staking accuracy and tolerances stated in the CDOT Survey Manual.

Subsection 625.13 shall include the following:

All costs associated with 3DECS surveying will not be measured and paid for separately, but shall be included in the work.

July 3, 2017

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REVISION OF SECTION 703
AGGREGATE FOR BASES (RAP ALLOWED)

Section 703 of the Standard Specifications is hereby revised for this project as follows:

In subsection 703.03, first paragraph, delete the first sentence and replace with the following:

Aggregates for bases other than Aggregate Base Coarse (RAP) shall be crushed stone, crushed slag, crushed gravel, natural gravel, crushed reclaimed concrete or crushed reclaimed asphalt pavement (RAP).

REVISION OF SECTION 703
CLASSIFICATION FOR AGGREGATE BASE COURSE

Section 703 of the Standard Specifications is hereby revised for this project as follows:

In subsection 703.03, delete Table 703-2 and replace with the following:

**Table 703-2
CLASSIFICATION FOR AGGREGATE BASE COURSE**

Sieve Size	Mass Percent Passing Square Mesh Sieves						
	LL not greater than 35			LL not greater than 30			
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7
150mm (6")			100				
100mm (4")		100					
75mm (3")		95-100					
60mm (2 ½")	100						
50mm (2")	95-100			100			
37.5mm (1.5")				90-100	100		
25mm (1")					95-100	100	100
19mm (¾")				50-90		95-100	
4.75mm (#4)	30-65			30-50	30-70	30-65	
2.36mm (#8)						25-55	20-85
75 μm (#200)	3-15	3-15	20 max	3-12	3-15	3-12	5-15

NOTE: Class 3 material shall consist of bank or pit run material.

AFFIRMATIVE ACTION REQUIREMENTS
EQUAL EMPLOYMENT OPPORTUNITY

A. AFFIRMATIVE ACTION REQUIREMENTS

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)

1. The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area are as follows:

Goals and Timetable for Minority Utilization

Timetable - Until Further Notice			
Economic Area	Standard Metropolitan Statistical Area (SMSA)	Counties Involved	Goal
157 (Denver)	2080 Denver-Boulder	Adams, Arapahoe, Boulder, Denver, Douglas, Gilpin, Jefferson.....	13.8%
	2670 Fort Collins	Larimer.....	6.9%
	3060 Greeley	Weld.....	13.1%
	Non SMSA Counties	Cheyenne, Clear Creek, Elbert, Grand, Kit Carson, Logan, Morgan, Park, Phillips, Sedgwick, Summit, Washington & Yuma.....	12.8%
158 (Colo. Spgs. - Pueblo)	1720 Colorado Springs	El Paso, Teller.....	10.9%
	6560 Pueblo	Pueblo.....	27.5%
	Non SMSA Counties	Alamosa, Baca, Bent, Chaffee, Conejos, Costilla, Crowley, Custer, Fremont, Huerfano, Kiowa, Lake, Las Animas, Lincoln, Mineral, Otero, Prowers, Rio Grande, Saguache.....	19.0%
159 (Grand Junction)	Non SMSA	Archuleta, Delta, Dolores, Eagle, Garfield, Gunnison, Hinsdale, La Plata, Mesa, Moffat, Montezuma, Montrose, Ouray, Pitkin, Rio Blanco, Routt, San Juan, San Miguel	10.2%
156 (Cheyenne - Casper WY)	Non SMSA	Jackson County, Colorado.....	7.5%
GOALS AND TIMETABLES FOR FEMALE UTILIZATION			
Until Further Notice.....			6.9% -- Statewide

AFFIRMATIVE ACTION REQUIREMENTS
EQUAL EMPLOYMENT OPPORTUNITY

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Par 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

4. As used in this specification, and in the contract resulting from this solicitation, the "covered area" is the county or counties shown on the Invitation for Bids and on the plans. In cases where the work is in two or more counties covered by differing percentage goals, the highest percentage will govern.

AFFIRMATIVE ACTION REQUIREMENTS
EQUAL EMPLOYMENT OPPORTUNITYB. STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT
SPECIFICATIONS

Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)

1. As used in these Specifications:

- a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
- b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
- c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
- d. "Minority" includes;

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractor toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any office of Federal Contract Compliance Programs Office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

AFFIRMATIVE ACTION REQUIREMENTS
EQUAL EMPLOYMENT OPPORTUNITY

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following;
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and maintain a record of the organization's responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source of community organization and of what action was taken with respect to each individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc., by specific review of the policy with all management personnel and with all minority and female employees at least once a year, and by posting the Contractor's EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

AFFIRMATIVE ACTION REQUIREMENTS
EQUAL EMPLOYMENT OPPORTUNITY

- g. Review, at least annually, the Contractor's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc. such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and Contractor's activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
- p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligation.

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8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goal and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form, however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

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C. SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES.

1. *General.*

- a. Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246 and Executive Order 11375 are set forth in Required Contract. Provisions (Form FHWA 1273 or 1316, as appropriate) and these Special Provisions which are imposed pursuant to Section 140 of Title 23, U.S.C., as established by Section 22 of the Federal-Aid highway Act of 1968. The requirements set forth in these Special Provisions shall constitute the specific affirmative action requirements for project activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract provisions.
- b. The Contractor will work with the State highway agencies and the Federal Government in carrying out equal employment opportunity obligations and in their review of his/her activities under the contract.
- c. The Contractor and all his/her subcontractors holding subcontracts not including material suppliers, of \$10,000 or more, will comply with the following minimum specific requirement activities of equal employment opportunity: (The equal employment opportunity requirements of Executive Order 11246, as set forth in Volume 6, Chapter 4, Section 1, Subsection 1 of the Federal-Aid Highway Program Manual, are applicable to material suppliers as well as contractors and subcontractors.) The Contractor will include these requirements in every subcontract of \$10,000 or more with such modification of language as is necessary to make them binding on the subcontractor.

2. *Equal Employment Opportunity Policy.* The Contractor will accept as his operating policy the following statement which is designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex, or national origin, and to promote the full realization of equal employment opportunity through a positive continuing program;

It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, or national origin. Such action shall include; employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training.

3. *Equal Employment Opportunity Officer.* The Contractor will designate and make known to the State highway agency contracting officers and equal employment opportunity officer (herein after referred to as the EEO Officer) who will have the responsibility for an must be capable of effectively administering and promoting an active contractor program of equal employment opportunity and who must be assigned adequate authority and responsibility to do so.

4. *Dissemination of Policy.*

- a. All members of the Contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the Contractor's equal employment opportunity policy and contractual responsibilities to provide equal employment opportunity in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum;

- (1) Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the Contractor's equal employment opportunity policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

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- (2) All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official, covering all major aspects of the Contractor's equal employment opportunity obligations within thirty days following their reporting for duty with the Contractor.
 - (3) All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer or appropriate company official in the Contractor's procedures for locating and hiring minority group employees.
- b. In order to make the Contractor's equal employment opportunity policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the Contractor will take the following actions:
- (1) Notices and posters setting forth the Contractor's equal employment opportunity policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - (2) The Contractor's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

5. *Recruitment.*

- a. When advertising for employees, the Contractor will include in all advertisements for employees the notation; "An Equal Opportunity Employer." All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.
- b. The Contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants, including, but not limited to, State employment agencies, schools, colleges and minority group organizations. To meet this requirement, the Contractor will, through his EEO Officer, identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the Contractor for employment consideration.

In the event the Contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the Contractor's compliance with equal employment opportunity contract provisions. (The U.S. Department of Labor has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the Contractor to do the same, such implementation violates Executive Order 11246, as amended.)

- c. The Contractor will encourage his present employees to refer minority group applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority group applicants will be discussed with employees.
6. *Personnel Actions.* Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, or national origin. The following procedures shall be followed;
- a. The Contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

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- b. The Contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
- c. The Contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the Contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
- d. The Contractor will promptly investigate all complaints of alleged discrimination made to the Contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the Contractor will inform every complainant of all of his avenues of appeal.

7. *Training and Promotion.*

- a. The Contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.
- b. Consistent with the Contractor's work force requirements and as permissible under Federal and State regulations, the Contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.
- c. The Contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
- d. The Contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

8. *Unions.* If the Contractor relies in whole or in part upon unions as a source of employees, the Contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women with the unions, and to effect referrals by such unions of minority and female employees. Actions by the Contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

- a. The Contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
- b. The Contractor will use best efforts to incorporate an equal employment opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, or national origin.
- c. The Contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the Contractor, the Contractor shall so certify to the State highway department and shall set forth what efforts have been made to obtain such information.

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- d. In the event the union is unable to provide the Contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the Contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex or national origin; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The U.S. Department of Labor has held that it shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the Contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such Contractor shall immediately notify the State highway agency.

9. *Subcontracting.*

- a. The Contractor will use his best efforts to solicit bids from and to utilize minority group subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of minority-owned construction firms from State highway agency personnel.
- b. The Contractor will use his best efforts to ensure subcontractor compliance with their equal employment opportunity obligations.

10. *Records and Reports.*

- a. The Contractor will keep such records as are necessary to determine compliance with the Contractor's equal employment opportunity obligations. The records kept by the Contractor will be designed to indicate:
 - (1) The number of minority and nonminority group members and women employed in each work classification on the project.
 - (2) The Progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women (applicable only to contractors who rely in whole or in part on unions as a source of their work force).
 - (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees, and
 - (4) The progress and efforts being made in securing the services of minority group subcontractors or subcontractors with meaningful minority and female representation among their employees.
- b. All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the State highway agency and the Federal Highway Administration.
- c. The Contractors will submit an annual report to the State highway agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form PR 1391.

1. Overview

The Disadvantaged Business Enterprise (DBE) Program is a federally-mandated program that seeks to ensure non-discrimination in the award of U.S. Department of Transportation (DOT)-assisted contracts and to create a level playing field on which DBEs can compete fairly for DOT-assisted contracts. Local Public Agencies (LPAs) that receive federal funds, must comply with CDOT's DBE program. To such end, CDOT sets a contract goal for DBE participation for each DOT-assisted LPA Contract.

In order to be awarded the Contract, the bidder shall show that it has committed to DBE participation sufficient to meet the goal or has otherwise made good faith efforts to do so. CDOT will amend the goal prior to award if the lowest apparent bidder demonstrates that good faith efforts were made but sufficient commitments to meet the goal could not be obtained.

CDOT and the LPA will monitor the progress of the Contractor throughout the project to ensure that the Contractor's DBE commitments are being fulfilled. Modifications to the commitments must be approved by the CDOT Regional Civil Rights Office (RCRO). CDOT may withhold payment or seek other contractual remedies if the Contractor is not complying with the requirements of this special provision. Upon completion of the Contract, CDOT may require the LPA to reduce the final payment to the Contractor if the Contractor has failed to fulfill the commitments or made good faith efforts to meet the contract goal.

For general assistance regarding the DBE program and compliance, contact CDOT's Civil Rights and Business Resource Center (CRBRC) at (303)757-9234. For project specific issues, contact the LPA Engineer or RCRO.

All forms referenced herein can be found on the CDOT website in the forms library.

2. Contract Assurance

By submitting a proposal for this Contract, the bidder agrees to the following assurance and shall include it verbatim in all (including non-DBE) subcontracts:

The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to: (1) Withholding monthly progress payments; (2) Assessing sanctions; (3) Liquidated damages; and/or (4) Disqualifying the contractor from future bidding as non-responsible.

3. Definitions

Terms not defined herein shall have the meaning provided in the CDOT Standard Specifications for Road and Bridge Construction.

- A. *Commitment.* A commitment is a portion of the Contract, identified by dollar amount and work area, designated by the bidder or Contractor for participation by a particular DBE. Commitments are submitted to CDOT via Form 1414, Anticipated DBE Participation Plan, or via Form 1420, DBE Plan Modification Request. Once approved, commitments are enforceable obligations of the Contract.
- B. *Commercially Useful Function (CUF).* Responsibility for the execution of the work and carrying out such responsibilities by actually performing, managing and supervising the work as further described in Section 8 below.
- C. *Contract Goal.* The percentage of the contract designated by CDOT for DBE participation. The contract goal for this contract is provided in the Project Special Provision Disadvantaged Business Enterprise Contract Goal.

(1) The bidder/Contractor shall make good faith efforts to fulfill the contract goal with eligible DBE

participation. For determining whether the contract goal was met prior to award, the contract goal shall be based upon the proposal amount excluding force account items. For determining whether the contract goal was met during and upon completion of the project, the contract goal shall be based upon the total earnings amount.

- (2) If the lowest apparent bidder demonstrates that it was unable to meet the contract goal but made good faith efforts to do so, the contract goal will be amended and the revised contract goal will be provided on Form 1417, Approved DBE Participation Plan.
- D. *Disadvantaged Business Enterprise (DBE)*. A Colorado-certified Disadvantaged Business Enterprise listed on the Colorado Unified Certification Program (UCP) DBE Directory at www.coloradodbe.org.
 - E. *DBE Program Manual*. The manual maintained by the CRBRC which details CDOT's policies and procedures for administering the DBE program. A copy of the DBE Program Manual is available on the CRBRC webpage.
 - F. *Eligible Participation*. Work by a DBE that counts toward fulfillment of the contract goal as described in Section 4 below.
 - G. *Good Faith Efforts*. All necessary and reasonable steps to achieve the contract goal which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if not fully successful. Good faith efforts are evaluated prior to award and throughout performance of the Contract. For guidance on good faith efforts, see 49 CFR Part 26, Appendix A.
 - H. *Joint Check*. A check issued by the Contractor or one of its subcontractors to a DBE firm and a material supplier or other third party for materials or services to be incorporated into the work.
 - I. *Reduction*. A reduction occurs when the Contractor reduces a commitment to a DBE. A reduction constitutes a partial termination.
 - J. *Subcontractor*. An individual, firm, corporation or other legal entity to whom the Contractor sublets part of the Contract. For purposes of this special provision, the term subcontractor includes suppliers.
 - K. *Substitution*. Substitution occurs when a Contractor seeks to find another DBE to perform work on the contract as a result of a reduction or termination.
 - L. *Termination*. A termination occurs when a Contractor no longer intends to use a DBE for fulfillment of a commitment.
 - M. *Total Earnings Amount*: Amount of the Contract earned by the Contractor, including approved changes and approved force account work performed, but not including any deductions for liquidated damages, price reduced material, work time violations, overweight loads or liens. The amount of the Contract earned does not include plan force account items (i.e. OJT, pavement incentives, etc).
 - N. *Work Code*. A code to identify the work that a DBE is certified to perform. A work code includes a six digit North American Industry Classifications System code plus a descriptor. Work codes are listed on a firm's profile on the UCP DBE Directory. The Contractor may contact the CRBRC to receive guidance on whether a work code covers the work to be performed.

4. Eligible Participation

The following rules will be used to determine whether work performed by a DBE qualifies as eligible participation on the Contract:

- A. *Work Must be Identified in Commitment.* The work performed by the DBE must be reasonably construed to be included in the work area and work code identified by the Contractor in the approved commitment.
- (1) If the Contractor intends to use a DBE for work that was not listed in the commitment, the Contractor shall submit Form 1420, DBE Participation Plan Modification for approval of the modification. Unapproved work will not count toward the contract goal.
 - (2) A DBE commitment cannot be modified to include work for which the DBE was not certified at the time of the approval of the original commitment.
- B. *DBE Must be Certified to Perform the Work.* The DBE must be certified to perform the work upon submission of the commitment and upon execution of the DBE's subcontract.
- (1) When a commitment has been made, but upon review of Form 205, Sublet Permit, CDOT determines that the DBE is no longer certified in the work code which covers the work to be performed, the Contractor may not use the DBE's participation toward the contract goal. The Contractor shall terminate the DBE commitment and seek substitute DBE participation in accordance with Section 9 below.
 - (2) A DBE's work will continue to count as eligible participation if the DBE was certified upon approval of Form 205, Sublet Permit and the certification status changes during the performance of the work.
 - (3) Suppliers must be certified upon execution of the purchase order.
- C. *DBE Performs the Work.* Eligible participation will only include work actually performed by the DBE with its own forces.
- (1) Work performed by the DBE includes the cost of supplies and materials obtained by the DBE for its work on the Contract, including any equipment leased by the DBE, provided that such supplies or equipment are not purchased or leased from the Contractor or a subcontractor that is subletting to the DBE.
 - (2) The term "work actually performed by the DBE with its own forces" includes work by temporary employees, provided such employees are under the control of the DBE.
 - (3) If CDOT or the LPA determines that a DBE has not performed a CUF on the project, no participation by such DBE shall count toward the contract goal.
- D. *DBE Subcontracts to Another Firm.* When a DBE subcontracts part of the work, the value of the subcontracted work may only be counted toward the goal if the subcontractor is a DBE. Performance by non-DBE subcontractors, including non-DBE trucking firms and owner-operators, shall be deducted from the DBE's participation.
- E. *DBE Received Payment for the Work.* Eligible participation only includes work for which the DBE has received payment, including the release of its retainage.
- F. *Special Calculations for Suppliers.* When a DBE supplies goods on a project, the DBE may be classified as a manufacturer, dealer or broker. The DBE's status as a manufacturer, dealer or broker is determined on a contract-by-contract basis and is based upon the actual work performed.
- (1) When a DBE is deemed to be acting as a manufacturer, one hundred percent of the commitment will count as eligible participation.
 - (2) When a DBE is deemed to be acting as a regular dealer (i.e. non-manufacturer supplier), only sixty percent of the commitment will count as eligible participation.

(3) When a DBE is deemed to be acting as a broker, only the reasonable brokerage fee will count as eligible participation.

- G. *Reasonable Fee for Contract-Specific Services.* Services shall count toward the contract goal only if they are specifically required for the performance of the Contract. Non-contract specific expenses may not be counted toward the contract goal. Fees for services must be reasonable. Services include but are not limited to professional services, public involvement, etc. In the case of temporary employment placement agencies, only the placement fee for an individual to be specifically and exclusively used for work on the contract shall count as eligible participation.
- H. *Pre-Approval for Joint Venture Participation.* When a DBE is a participant in a joint venture, the DBE must apply to CDOT to determine how much of the work performed by the joint venture will count toward the contract goal. The DBE shall complete Form 893, Information for Determining DBE Participation when a Joint Venture Includes a DBE. Form 893 shall be submitted to CDOT CRBRC no less than ten days before the submission of the Proposal or to the RCRO no less than ten days before submission of the Form 205 to ensure sufficient time for review.

5. Proposal Requirements

In order to be eligible for award, the following shall be submitted with the proposal to the LPA:

- A. *Form 1413, Bidders List.* The bidder shall list each subcontractor (including both DBE and non-DBE subcontractors) that submitted a quote for participation on the project. Failure to submit a signed Form 1413 will result in rejection of the proposal.

DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENTS (LOCAL AGENCY)

- B. *Form 1414, Anticipated DBE Participation Plan.* If the Contract Goal is greater than zero, the bidder shall submit Form 1414 to document anticipated DBE participation.
- (1) If the Bidder has not obtained any DBE commitments, it shall still submit Form 1414 documenting zero anticipated participation. If the Contract Goal is greater than zero, failure to submit a signed Form 1414 shall result in rejection of the proposal.
 - (2) The bidder shall list the DBE, work area(s), commitment amount and estimated eligible participation for each commitment. Once Form 1414 is submitted, a commitment may only be terminated or reduced in accordance with Section 9 below. The bidder is responsible for ensuring that commitments, and the estimated eligible participation resulting therefrom, have been properly calculated prior to submitting its proposal.
 - (3) If the bidder is a DBE, the bidder must include itself in Form 1414 and list the work area(s) and amount that it intends to self-perform and count as eligible participation on the contract.
 - (4) Commitments may be made to second tier or lower DBE subcontractors; however, the Contractor is ultimately responsible for the fulfillment of the commitment and shall sign the Form 1415, Commitment Confirmation.

6. Additional Forms Due Prior to Award.

If the contract goal is greater than zero, or if the bidder has voluntarily made commitments, the Bidder shall submit the following forms to the LPA within five calendar days of selection as the lowest apparent bidder. These forms must be submitted to the CDOT CRBRC concurrent with the request for concurrence to award.

- A. *Form 1415, Commitment Confirmation.* A Form 1415, Commitment Confirmation shall be obtained from each DBE listed on Form 1414. The bidder shall complete Section 1 and the DBE shall complete Section 2 of Form 1415. Form 1415s shall be consistent with the commitments listed on Form 1414. The bidder shall not modify commitments listed on Form 1414 without good cause and approval from CDOT. The bidder shall contact CDOT if any issues arise which may require the bidder to alter or terminate a commitment.
- B. *Form 1416, Good Faith Effort Report.* If the total eligible participation listed on Form 1414 does not meet the contract goal, the lowest apparent bidder shall also submit Form 1416, Good Faith Effort Report and any supporting documentation that the bidder would like considered by CDOT as evidence of good faith efforts.

7. Commitment and Good Faith Effort Review

- A. *Commitment Review.* CDOT will evaluate the Form 1414 and each Form 1415 to ensure that the commitment is valid and has been properly calculated. CDOT may investigate or request additional information in order to confirm the accuracy of a commitment. If CDOT determines that the total estimated eligible participation of the commitments does not meet the contract goal, within two business days of notice from CDOT, the bidder shall submit Form 1416 to CDOT.
- B. *Good Faith Effort Review.* If the total eligible participation of Form 1414 and all supporting Form 1415s does not meet the contract goal, CDOT will review Form 1416 and all supporting documentation submitted by the bidder in order to determine whether the bidder has demonstrated good faith efforts to obtain DBE participation. CDOT will use 49 CFR Part 26, Appendix A as a guide for determining whether the bidder made good faith efforts to meet the contract goal. A bidder will be deemed to not have made good faith efforts if the bidder lists a DBE for a work area for which the DBE is not certified and the bidder cannot establish a reasonable basis for its determination. CDOT may consider and approve commitments made after submission of the bid if the Bidder demonstrates that (1) good faith efforts were made prior to submission of the bid and (2) there is a reasonable justification for not obtaining the commitments prior to submission of the bid.

DISADVANTAGED BUSINESS ENTERPRISE (DBE)
REQUIREMENTS (LOCAL AGENCY)

- C. *Administrative Reconsideration.* If CDOT determines that the bidder did not demonstrate good faith efforts to meet the contract goal, it will provide the bidder and LPA with written notice of its determination. The bidder will be provided an opportunity to request administrative reconsideration of the decision. The process for reconsideration is set forth in the *Good Faith Effort Appeal Process*, which is an Appendix I to the DBE Program Manual. A copy of the *Good Faith Effort Appeal Process* will be included in the written notice from CDOT.

- D. *Form 1417, Approved DBE Participation Plan.* If CDOT determines that the bidder has met the contract goal or made good faith efforts to do so, CDOT will issue to the bidder, with a copy to the LPA, Form 1417, Approved DBE Participation Plan, documenting the approved commitments. If CDOT determines that the bidder did not meet the contract goal but made good faith efforts to do so, via the Form 1417 CDOT will amend the contract goal in accordance with the commitments that were obtained and attach an explanation of its determination.

DISADVANTAGED BUSINESS ENTERPRISE (DBE)
REQUIREMENTS (LOCAL AGENCY)

8. Ongoing Oversight of DBE Participation

- A. *Consistency Review.* CDOT will review Form 205, Sublet Permit Application to determine whether the work being sublet is consistent with the DBE commitments. CDOT may withhold approval of the sublet or direct the LPA to stop performance of the work if the Contractor has reduced, terminated, or otherwise modified the type or amount of work to be performed by a DBE without seeking prior approval.
- B. *Form 1419, DBE Participation Report.* The Contractor shall submit Form 1419, DBE Participation Report to the LPA Engineer on a quarterly basis (January 15, April 15, July 15, and October 15) and upon completion of the Contract. The LPA may withhold progress payments if the quarterly Form 1419 is not received on time. The LPA will not provide final payment on the Contract until the final Form 1419 has been reviewed and approved by the CDOT RCRO.
- C. *Joint Checks.* All joint checks must be approved by the CDOT RCRO before they are used in payment to a DBE. Joint checks used in payments to DBEs will be monitored closely to ensure (1) the DBE is performing a CUF and (2) the joint checks are not being used in a discriminatory manner. The Contractor shall request approval for the use of a joint check in a written letter signed by the DBE and the Contractor, stating the reason for the joint checks and the approximate number of checks that will be needed.
- D. *Commercially Useful Function.* CDOT will monitor performance during the Contract to ensure each DBE is performing a CUF. If CDOT or the LPA determines that a DBE is not performing a CUF, no work performed by such DBE shall count as eligible participation. The DBE, Contractor, and any other involved third parties may also be subject to additional enforcement actions.
- (1) When determining whether a DBE is performing a CUF, CDOT and the LPA will consider the amount of work subcontracted, industry practices, the amount the firm is to be paid compared to the work performed and eligible participation claimed, and any other relevant factors.
 - (2) With respect to material and supplies used on the Contract, in order to perform a CUF the DBE must be responsible for negotiating price, determining quality and quantity, ordering the material, installing the material, if applicable, and paying for the material itself.
 - (3) With respect to trucking, in order to perform a CUF, the DBE trucking firm must own and operate at least one fully licensed, insured and operational truck used on the Contract. Additionally, the DBE trucking firm must be responsible for the management and supervision of the entire trucking operation for which it is responsible on the Contract.
 - (4) A DBE does not perform a CUF when its role is limited to that of an extra participant in a transaction, contract or project through which funds are passed in order to obtain the appearance of DBE participation. CDOT will evaluate similar transactions involving non-DBEs in order to determine whether a DBE is an extra participant.
 - (5) If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work than would be expected on the basis of normal industry practice for the type of work involved, CDOT and the LPA will presume that the DBE is not performing a CUF. The DBE may present evidence to rebut this presumption.

DISADVANTAGED BUSINESS ENTERPRISE (DBE)
REQUIREMENTS (LOCAL AGENCY)

9. DBE Participation Plan Modifications

- A. *Contractor must Use DBEs Listed in Approved Plan.* The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which it is listed unless the Contractor obtains the CDOT RCRO's written consent to terminate, reduce or modify the commitment. Unless CDOT grants such consent, the Contractor will not be entitled to payment for the work or materials. Failure to carry out the requirements of this section is a material breach of the Contract and may result in the termination of the Contract or other remedies established by CDOT or the LPA.
- B. *Form 1420, DBE Participation Plan Modification Request.* During the performance of the Contract, the Contractor shall use Form 1420, DBE Participation Plan Modification Request to communicate all requests for termination, reduction, substitution, and waivers to the CDOT RCRO. One Form 1420 may include multiple requests and must be submitted at the time of the occurrence or, if that is not possible, within a reasonable time of the occurrence requiring termination, reduction, substitution or waiver.
- C. *Commitment Terminations and Reductions.* No commitment shall be terminated or reduced without CDOT's approval. Terminations and reductions include, but are not limited to, instances in which a Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces, those of an affiliate, a non-DBE firm or with another DBE firm. In order to receive approval, the Contractor shall:
- (1) Have good cause for termination or reduction. Good cause may include:
 - (i) the DBE fails or refuses to execute a written contract;
 - (ii) the DBE fails or refuses to perform the work of its subcontract consistent with normal industry standards, provided that such failure is not the result of bad faith or discriminatory actions of the Contractor or one of its subcontractors;
 - (iii) the DBE fails to meet reasonable, nondiscriminatory bond requirements;
 - (iv) the DBE becomes bankrupt, insolvent, or exhibits credit unworthiness;
 - (v) the DBE is ineligible to work because of suspension or debarment proceedings or other state law;
 - (vi) the DBE is not a responsible contractor;
 - (vii) the DBE voluntarily withdraws from the project and provides written notice to CDOT,
 - (viii) the DBE is ineligible to receive DBE credit for the work required;
 - (ix) the DBE owner dies or becomes disabled and is unable to complete the work;
 - (x) the DBE ceases business operations or otherwise dissolves;
 - (xi) or other documented good cause that compels termination. Good cause does not exist if the Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the Contractor can self-perform the work for which the DBE was engaged or so that the Contractor can substitute another DBE or non-DBE contractor after contract award.
 - (2) Provide the DBE notice of the Contractor's intent to terminate or reduce the commitment and the reason for such termination or reduction, with a copy to the CDOT RCRO and LPA;

DISADVANTAGED BUSINESS ENTERPRISE (DBE)
REQUIREMENTS (LOCAL AGENCY)

- (3) In the notice of intent, provide the DBE at least five calendar days to respond to the notice and inform CDOT and the Contractor of the reasons, if any, why it objects to the proposed termination or reduction and any reasons that it shall not be approved. The Contractor is not required to provide the five calendar days written notice in cases where the DBE in question has provided written notice that it is withdrawing from the subcontract or purchase order. The notice period may be reduced by the CDOT RCRO if required by public necessity.
- (4) Following the notice period, if the Contractor decides to proceed, submit Form 1420 requesting approval of the termination or reduction.
- (5) When a commitment is terminated or reduced (including when a DBE withdraws), make good faith efforts to find another DBE to substitute. These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the participation that was terminated or reduced up to the contract goal.

D. *Contract Changes.* In the event of a contract change:

- (1) If the LPA eliminates or reduces work committed to a DBE, such change shall be considered good cause for termination or reduction in accordance with Section 9.B above. The Contractor shall follow the processes outlined in Section 9.B.
- (2) If the LPA issues a change which increases or adds new work items, the Contractor shall ensure that it has obtained sufficient DBE participation to meet the Contract Goal, or has made good faith efforts to do so.

E. *Process for Substitution or Increase in Participation to Meet the Contract Goal.* When the Contractor must obtain additional DBE participation to meet the Contract Goal, whether resulting from an approved termination or reduction or a change to the Contract, the Contractor shall:

- (1) Increase the participation of a DBE for any work items previously identified in an approved commitment without seeking CDOT approval; provided, however, that at its discretion, the CDOT RCRO may request a Form 1420 documenting such additional participation; or
- (2) If the Contractor needs to add new work to a commitment or obtain additional participation from a DBE that is not already participating on the contract pursuant to an approved commitment, submit a Form 1420 and Form 1415 to the RCRO requesting approval of the additional participation; or
- (3) If the Contractor determines that additional DBE participation cannot be obtained, submit a Form 1420 to the RCRO requesting waiver of the participation. The Contractor shall include its justification for not obtaining additional participation and, at its discretion, CDOT may require additional information regarding the efforts of the Contractor. If the Contractor has not obtained substitute participation, the RCRO may require the Contractor to submit evidence of good faith efforts to substitute. The contractor shall have seven days to submit such information. This period may be extended at the discretion of the RCRO.

DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENTS (LOCAL AGENCY)

10. Payment Reduction

The Contractor's retainage will not be released until the CDOT RCRO has determined whether the Contractor will be subject to a payment reduction. Payment reductions will be calculated as follows:

- A. *Failure to Fulfill Commitments.* If the Contractor terminated or reduced a commitment, the Contractor will be subject to a payment reduction for any termination or reduction which was not approved via a Form 1420.
- B. *Failure to Meet Contract Goal.* If the Contractor failed to meet the contract goal, the Contractor will be subject to a payment reduction for the portion of the contract goal that was not met and was not waived via an approved Form 1420.
- C. *Duplication.* The contractor will not be subject to duplicate reduction for the same offense.
- D. *Adjustments.* CDOT may adjust the payment reduction wherein the Contractor demonstrates that its failure to obtain DBE participation was due to circumstances outside of its control.

11. Other Enforcement

- A. *Investigations.* As it determines necessary, CDOT or the LPA may conduct reviews or investigations of participants. All participants, including, but not limited to, DBE firms and applicants for DBE certification, complainants, and contractors using DBE firms to meet contract goals, are required to cooperate fully and promptly with compliance reviews, certification reviews, investigations, and other requests for information.
- B. *Intimidation and retaliation.* Participants shall not intimidate, threaten, coerce, or discriminate against any individual or firm for the purpose of interfering with any right or privilege secured by the DBE program or because the individual or firm has made a complaint, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing under the DBE program.
- C. *Consequences of Non-Compliance.* Failure to comply with subsections 11 A. or 11 B. shall be a ground for appropriate action against the party involved (e.g., with respect to recipients, a finding of noncompliance; with respect to DBE firms, denial of certification or removal of eligibility and/or suspension and debarment; with respect to a complainant or appellant, dismissal of the complaint or appeal; with respect to a contractor which uses DBE firms to meet goals, findings of non-responsibility for future contracts and/or suspension and debarment).
- D. *Fraud and Misrepresentation.* If CDOT or the LPA determines that a Contractor or subcontractor was a knowing and willing participant in any intended or actual subcontracting arrangement contrived to artificially inflate DBE participation or any other business arrangement determined by CDOT or the LPA to be unallowable, or if the Contractor engages in repeated violations, falsification or misrepresentation, CDOT may:
 - (1) refuse to count any fraudulent or misrepresented DBE participation;
 - (2) withhold progress payments to the Contractor commensurate with the violation;
 - (3) suspend or reduce the Contractor's prequalification status;
 - (4) refer the matter to the Office of Inspector General of the US Department of Transportation for investigation; or
 - (5) seek any other available contractual remedy.

Decision Nos. CO170024 dated January 06, 2017 supersedes Decision Nos. CO160024 dated January 08, 2016.		<u>Modifications</u>			<u>ID</u>
		<u>MOD Number</u>	<u>Date</u>	<u>Page Number(s)</u>	
When work within a project is located in two or more counties and the minimum wages and fringe benefits are different for one or more job classifications, the higher minimum wages and fringe benefits shall apply throughout the project.		1	06-09-17	1	1
General Decision No. CO170024 applies to the following counties: Larimer, Mesa, and Weld counties.					
General Decision No. CO170024 The wage and fringe benefits listed below reflect collectively bargained rates.					
Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod	
	POWER EQUIPMENT OPERATOR:				
	Drill Rig Caisson				
1714	Smaller than Watson 2500 and similar	27.60	10.10	1	
1715	Watson 2500 similar or larger	27.92	10.10	1	
	Oiler				
1716	Weld	26.84	10.10	1	
General Decision No. CO170024 The wage and fringe benefits listed below do not reflect collectively bargained rates.					
	CARPENTER:				
1717	Excludes Form Work	20.72	5.34		
	Form Work Only				
1718	Larimer, Mesa	18.79	3.67		
1719	Weld	16.54	3.90		
	CEMENT MASON/CONCRETE FINISHER:				
1720	Larimer	16.05	3.00		
1721	Mesa	17.53	3.00		
1722	Weld	17.48	3.00		
	ELECTRICIAN:				
	Excludes Traffic Signalization				
1723	Weld	33.45	7.58		
	Traffic Signalization				
1724	Weld	25.84	6.66		

General Decision No. CO170024				
The wage and fringe benefits listed below do not reflect collectively bargained rates.				
Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
	FENCE ERECTOR:			
1725	Weld	17.46	3.47	
	GUARDRAIL INSTALLER:			
1726	Larimer, Weld	12.89	3.39	
	HIGHWAY/PARKING LOT STRIPING:			
	Painter			
1727	Larimer	14.79	3.98	
1728	Mesa	14.75	3.21	
1729	Weld	14.66	3.21	
	IRONWORKER:			
	Reinforcing (Excludes Guardrail Installation)			
1730	Larimer, Weld	16.69	5.45	
	Structural (Excludes Guardrail Installation)			
1731	Larimer, Weld	18.22	6.01	
	LABORER:			
	Asphalt Raker			
1732	Larimer	18.66	4.66	
1733	Weld	16.72	4.25	
1734	Asphalt Shoveler	21.21	4.25	
1735	Asphalt Spreader	18.58	4.65	
1736	Common or General	16.29	4.25	
1737	Concrete Saw (Hand Held)	16.29	6.14	
1738	Landscape and Irrigation	12.26	3.16	
1739	Mason Tender - Cement/Concrete	16.29	4.25	
	Pipelayer			
1740	Larimer	17.27	3.83	
1741	Mesa, Weld	16.23	3.36	
1742	Traffic Control (Flagger)	9.55	3.05	

General Decision No. CO170024				
The wage and fringe benefits listed below do not reflect collectively bargained rates.				
Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
	LABORER (con't):			
	Traffic Control (Sets Up/Moves Barrels, Cones, Installs signs, Arrow Boards and Place Stationary Flags), (Excludes Flaggers)			
1743	Larimer, Weld	12.43	3.22	
1744	PAINTER (Spray Only)	16.99	2.87	
	POWER EQUIPMENT OPERATOR:			
	Asphalt Laydown			
1745	Larimer	26.75	5.39	
1746	Mesa, Weld	23.93	7.72	
1747	Asphalt Paver	21.50	3.50	
	Asphalt Roller			
1748	Larimer	23.57	3.50	
1749	Mesa	24.25	3.50	
1750	Weld	27.23	3.50	
	Asphalt Spreader			
1751	Larimer	25.88	6.80	
1752	Mesa, Weld	23.66	7.36	
	Backhoe/Trackhoe			
1753	Larimer	21.46	4.85	
1754	Mesa	19.81	6.34	
1755	Weld	20.98	6.33	
	Bobcat/Skid Loader			
1756	Larimer	17.13	4.46	
1757	Mesa, Weld	15.37	4.28	
1758	Boom	22.67	8.72	
	Broom/Sweeper			
1759	Larimer	23.55	6.20	
1760	Mesa	23.38	6.58	
1761	Weld	23.23	6.89	

General Decision No. CO170024				
The wage and fringe benefits listed below do not reflect collectively bargained rates.				
Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
	POWER EQUIPMENT OPERATOR (con't):			
	Bulldozer			
1762	Larimer, Weld	22.05	6.23	
1763	Mesa	22.67	8.72	
1764	Crane	26.75	6.16	
	Drill			
1765	Larimer, Weld	31.39	0.00	
1766	Mesa	35.06	0.00	
1767	Forklift	15.91	4.68	
	Grader/Blade			
1768	Larimer	24.82	5.75	
1769	Mesa	23.42	9.22	
1770	Weld	24.53	6.15	
1771	Guardrail/Post Driver	16.07	4.41	
1772	Loader (Front End)			
1773	Larimer	20.45	3.50	
1774	Mesa	22.44	9.22	
1775	Weld	23.92	6.67	
	Mechanic			
1776	Larimer	27.68	4.57	
1777	Mesa	25.50	5.38	
1778	Weld	24.67	5.68	
	Oiler			
1779	Larimer	24.16	8.35	
1780	Mesa	23.93	9.22	
	Roller/Compactor (Dirt and Grade Compaction)			
1781	Larimer	23.67	8.22	
1782	Mesa, Weld	21.33	6.99	

General Decision No. CO170024				
The wage and fringe benefits listed below do not reflect collectively bargained rates.				
Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
	POWER EQUIPMENT OPERATOR (con't.):			
	Rotomill			
1783	Larimer	18.59	4.41	
1784	Weld	16.22	4.41	
	Scraper			
1785	Larimer	21.33	3.50	
1786	Mesa	24.06	4.13	
1787	Weld	30.14	1.40	
	Screed			
1788	Larimer	27.20	5.52	
1789	Mesa	27.24	5.04	
1790	Weld	27.95	3.50	
1791	Tractor	13.13	2.95	
	TRAFFIC SIGNALIZATION:			
	Groundsman			
1792	Larimer	11.44	2.84	
1793	Mesa	16.00	5.85	
1794	Weld	16.93	3.58	
	TRUCK DRIVER:			
	Distributor			
1795	Larimer	19.28	4.89	
1796	Mesa	19.17	4.84	
1797	Weld	20.61	5.27	
	Dump Truck			
1798	Larimer	18.86	3.50	
1799	Mesa	15.27	4.28	
1800	Weld	15.27	5.27	

General Decision No. CO170024				
The wage and fringe benefits listed below do not reflect collectively bargained rates.				
Code	Classification	Basic Hourly Rate	Fringe Benefits	Last Mod
	TRUCK DRIVER (con't.):			
	Lowboy Truck			
1801	Larimer	18.96	5.30	
1802	Mesa, Weld	18.84	5.17	
1803	Mechanic	26.48	3.50	
	Multi-Purpose Specialty & Hoisting Truck			
1804	Larimer, Mesa	16.65	5.46	
1805	Weld	16.87	5.56	
1806	Pickup and Pilot Car	13.93	3.68	
1807	Semi/Trailer Truck	18.39	4.13	
1808	Truck Mounted Attenuator	12.43	3.22	
	Water Truck			
1809	Larimer	19.14	4.99	
1810	Mesa	15.96	5.27	
1811	Weld	19.28	5.04	

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

U.S. DEPT. OF LABOR DAVIS BACON MINIMUM WAGES, COLORADO
HIGHWAY CONSTRUCTION, GENERAL DECISION NUMBER - CO170024
WAGE DETERMINATION APPEALS PROCESS

DATE 06-09-17

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program.

If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7).

Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION NO. CO170024

1
ON THE JOB TRAINING

This training special provision is an implementation of 23 U.S.C. 140 (a). The Contractor shall meet the requirements of the FHWA 1273 for all apprentices and trainees.

As part of the Contractor's Equal Employment Opportunity Affirmative Action Program, training shall be provided on projects as follows:

1. The Contractor shall provide on the job training aimed at developing full journey workers in the skilled craft identified in the approved training plan. The Contractor shall provide at a minimum, required training hours listed in the Project Special Provisions for each project.
2. The primary objective of this specification is to train and upgrade women and minority candidates to full journey worker status. The Contractor shall make every reasonable effort to enroll and train minority and women workers. This training commitment shall not be used to discriminate against any applicant for training whether or not the applicant is a woman or minority.
3. The Contractor may employ temporary workers from CDOT supportive services providers to meet OJT requirements. Information pertaining to supportive services providers may be obtained by calling the CDOT OJT Coordinator at the number shown on the link <http://www.coloradodot.info/business/equal-opportunity/training.html>
4. An employee shall not be employed or utilized as a trainee in a skilled craft in which the employee has achieved journey status.
5. The minimum length and type of training for each skilled craft shall be as established in the training program selected by the Contractor and approved by the Department and the Colorado Division of the Federal Highway Administration (FHWA), or the U. S Department of Labor (DOL), Office of Apprenticeship or recognized state apprenticeship agency. To obtain assistance or program approval contact:

CDOT Center for Equal Opportunity
4201 East Arkansas Avenue
Denver, CO 80222
co@dot.state.co.us
1-800-925-3427
6. The Contractor shall pay the training program wage rates and the correct fringe benefits to each approved trainee employed on the project and enrolled in an approved program. The minimum trainee wage shall be no less than the wage for the Guardrail Laborer classification as indicated in the wage decision for the project.
7. The CDOT Regional Civil Rights Manager must approve all proposed apprentices and trainees for the participation to be counted toward the project goal and reimbursement. Approval must occur before training begins. Approval for the apprentice or trainee to begin work on a CDOT project will be based on:
 - A. Evidence of the registration of the trainee or apprentice into the approved training program.
 - B. The completed Form 838 for each trainee or apprentice as submitted to the Engineer.
8. Before training begins, the Contractor shall provide each trainee with a copy of the approved training program, pay scale, pension and retirement benefits, health and disability benefits, promotional opportunities, and company policies and complaint procedures.
9. Before training begins, the Contractor shall submit a copy of the approved training program and CDOT Form 1337 to the Engineer. Progress payments may be withheld until this is submitted and approved and may be withheld if the approved program is not followed.

2
ON THE JOB TRAINING

- 10. On a monthly basis, the Contractor shall provide to the Engineer a completed On the Job Training Progress Report (Form 832) for each approved trainee or apprentice on the project. The Form 832 will be reviewed and approved by the Engineer before reimbursement will be made. The Contractor will be reimbursed for no more than the OJT Force Account budget. At the discretion of the Engineer and if funds are available, the Engineer may increase the force account budget and the number of reimbursable training hours through a Change Order. The request to increase the force account must be approved by the Engineer prior to the training.
- 11. Upon completion of training, transfer to another project, termination of the trainee or notification of final acceptance of the project, the Contractor shall submit to the Engineer a "final" completed Form 832 for each approved apprentice or trainee.
- 12. All forms are available from the CDOT Center for Equal Opportunity, through the CDOT Regional Civil Rights Manager, or on CDOT's website at <http://www.coloradodot.info/business/bidding/Bidding%20Forms/Bid%20Winner%20Forms>
- 13. Forms 838 and 832 shall be completed in full by the Contractor. Reimbursement for training is based on the number of hours of on the job training documented on the Form 832 and approved by the Engineer. The Contractor shall explain discrepancies between the hours documented on Form 832 and the corresponding certified payrolls.
- 14. The OJT goal (# of training hours required) for the project will be included in the Project Special Provisions and will be determined by the Regional Civil Rights Manager after considering:
 - A. Availability of minorities, women, and disadvantaged for training;
 - B. The potential for effective training;
 - C. Duration of the Contract;
 - D. Dollar value of the Contract;
 - E. Total normal work force that the average bidder could be expected to use;
 - F. Geographic location;
 - G. Type of work; and
 - H. The need for additional journey workers in the area
 - I. The general guidelines for minimum total training hours are as follows:

Contract dollar value	Minimum total training hours to be provided on the project
Up to 1 million	0
>1 - 2 million	320
>2 - 4 million	640
>4 - 6 million	1280
>6 - 8 million	1600
>8 - 12 million	1920
>12 - 16 million	2240
>16 - 20 million	2560

3
ON THE JOB TRAINING

For each increment of \$5 million, over \$20 million	1280
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- 15. The number of training hours for the trainees to be employed on the project shall be as shown in the Contract. The trainees or apprentices employed under the Contract shall be registered with the Department using Form 838, and must be approved by the Regional Civil Rights Manager before training begins for the participation to be counted toward the OJT project goal. The goal will be met by an approved trainee or apprentice working on that project; or, if a Contractor's apprentice is enrolled in a DOL approved apprenticeship program and registered with CDOT using Form 838 and working for the Contractor on a non-CDOT project. The hours worked on the non-CDOT project may be counted toward the project goal with approved documentation on Form 832. Training hours will be counted toward one project goal.
- 16. Subcontractor trainees who are enrolled in an approved Program may be used by the Contractor to satisfy the requirements of this specification.
- 17. The Contractor will be reimbursed \$2.00per hour worked for each apprentice or trainee working on a CDOT project and whose participation toward the OJT project goal has been approved
- 18. The Contractor shall have fulfilled its responsibilities under this specification if the CDOT Regional Civil Rights Manager has determined that it has provided acceptable number of training hours.
- 19. Failure to provide the required training will result in the following disincentives: A sum representing the number of training hours specified in the Contract, minus the number of training hours worked as certified on Form 832, multiplied by the journey worker hourly wages plus fringe benefits [(A hours – B hours worked) x (C dollar per hour + D fringe benefits)] = Disincentives Assessed. Wage rate will be determined by averaging the wages for the crafts listed on Form 1337. The Engineer will provide the Contractor with a written notice at Final Acceptance of the project informing the Contractor of the noncompliance with this specification which will include a calculation of the disincentives to be assessed.

Attached is Form FHWA 1273 titled *Required Contract Provisions Federal-Aid Construction Contracts*. As described in Section I. General, the provisions of Form FHWA 1273 apply to all work performed under the Contract and are to be included in all subcontracts with the following modification:

For TAP (Transportation Alternatives Program) funded Recreational Trails projects, Section I (4) regarding convict labor and all of Section IV of the FHWA 1273 do not apply.

Except for Local Agency projects, the Contractor and all subcontractors who are subject to Davis-Bacon Related Acts (DBRA) requirements, shall submit all payrolls and Contractor Fringe Benefit Statements electronically via LCPtracker, utilizing the following web link:

<https://prod.lcptracker.net/WebForms/login.aspx>

The Contractor and subcontractors shall submit a Contractor Fringe Benefit Statement, either for each individual, or for groups of people, for all employees who perform work on the project and whose wages are covered by the Davis-Bacon Related Acts. Other approved deductions shall be noted within the LCPtracker system, and supporting documentation shall be attached. If for any reason the fringe benefits are altered during the life of the project, the Contractor, subcontractor, or both shall submit a revised Contractor Fringe Benefit Statement to accurately reflect the changes.

Each construction subcontractor shall submit their payrolls directly into LCP Tracker for approval by the Contractor.

The Contractor shall submit and approve their own payrolls in LCPtracker.

The Engineer will approve or reject weekly payrolls for the Contractor.

July 3, 2017

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REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not

include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

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2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the

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unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

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The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated

for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

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a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from

the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages

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of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety

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Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price

before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety,

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or

report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

SPECIAL CONSTRUCTION REQUIREMENTS
FIRE PROTECTION PLAN

(a)

Fire Protection Plan. Prior to start of work, the Contractor shall submit a Fire Control Plan in writing to the Engineer for approval. The plan shall include the following:

- (1) The name and contact information of a Fire Control Coordinator who shall be assigned to the project.
- (2) A list of numbers to call in case of a fire, including 911 (or the equivalent in the area).
- (3) A complete list, including storage locations, of all tools and equipment the Contractor will use in the event of a fire within project limits.
- (4) Methods that will be employed if a fire is encountered or started during construction activities within the project limits.
- (5) Specific fire prevention precautions, and the required firefighting equipment, for every activity which has the potential for starting a fire. At a minimum the plan shall address prevention planning related to use of heavy equipment, vehicles, hand tools, storage and parking areas.
- (6) Specific precautions for fueling operations.
- (7) Provisions for field safety meetings. The Contractor shall conduct field safety meetings (also known as toolbox or tailgate meetings) at least once per week. The Contractor shall encourage participation by all persons working at the project site. Participants shall discuss specific fire prevention precautions for construction activities.

(b) *Equipment and Procedures.*

- (1) Fire Boxes. Fire boxes shall contain tools and equipment that shall be used exclusively for controlling or suppressing fires which occur due to construction activities on project sites. Each fire box shall contain, as a minimum, the following:
 - (1) five round-pointed shovels,
 - (2) two double-bitted axes,
 - (3) three pulaskis or mattocks, and
 - (4) two backpack pumps
- (2) Welding. If welding at field locations is required, the welding shall be done at a location where all flammable material has been cleared away for a distance of 16 feet around the area.
- (3) Spark Arrestors. All diesel and gasoline powered engines, both mobile and stationary, shall be equipped with serviceable spark arrestors.
- (4) Power Saws. Each gasoline power saw shall be provided with a spark screen and a muffler in good condition. Spill-proof metal safety cans shall be used for refueling.
- (5) Storage and Parking Areas. Batch plant areas, equipment service areas, parking areas, gas and oil drum storage areas, and explosive storage areas shall be cleared of all flammable materials for a distance of 50 feet. Small stationary engine sites shall be cleared of all flammable material for distance of 17 feet. Other mitigation methods may be used as approved by the Engineer

SPECIAL CONSTRUCTION REQUIREMENTS
FIRE PROTECTION PLAN

- (c) *Fire Control Coordinator Responsibilities.* The Fire Control Coordinator shall:
- (1) Implement the Fire Control Plan.
 - (2) Monitor, manage, and adjust the Fire Control Plan as needed as construction work progresses.
 - (3) Document in a letter to the Engineer changes to the Fire Control Plan.
 - (4) Immediately contact firefighting authorities when a fire is started due to construction activities within project limits.
 - (5) Coordinate fire control and suppression activities until authorities arrive, including the evacuation of staff.
 - (6) When the Fire Control Coordinator cannot be on the project site, he shall designate a person who is on site to serve as the Fire Control Coordinator. The Fire Control Coordinator, or his designee, shall be on site at all times that work is being performed.
- (d) *Costs.* All costs associated with the preparation and implementation of the Plan and compliance with all fire protection provisions and requirements will not be measured and paid for separately, but shall be included in the work.

Appendix B
Colorado Department of Transportation
Solicitation Forms

Attachment
Drawings/Scope/Specifications

FHWA PoDI / NHS

FHWA Project of Division Interest (PoDI)? NO YES
 NATIONAL HIGHWAY SYSTEM? NO YES

DESCRIPTION OF PROJECT

THIS PROJECT INVOLVES CONSTRUCTION OF A NEW DOUBLE CELL CONCRETE BOX CULVERT AT THE LEWIS WASH CROSSING. THE PROJECT IS LOCATED ON F 1/2 ROAD WEST OF 31 ROAD AT APPROXIMATE MILE POST 30.8. MISCELLANEOUS ITEMS SUCH AS CURB GUTTER AND SIDEWALK WILL BE INSTALLED ON BOTH THE NORTH AND SOUTH SIDES OF THE ROAD AND GUARDRAIL WILL ALSO BE INCLUDED AS PART OF THIS PROJECT.

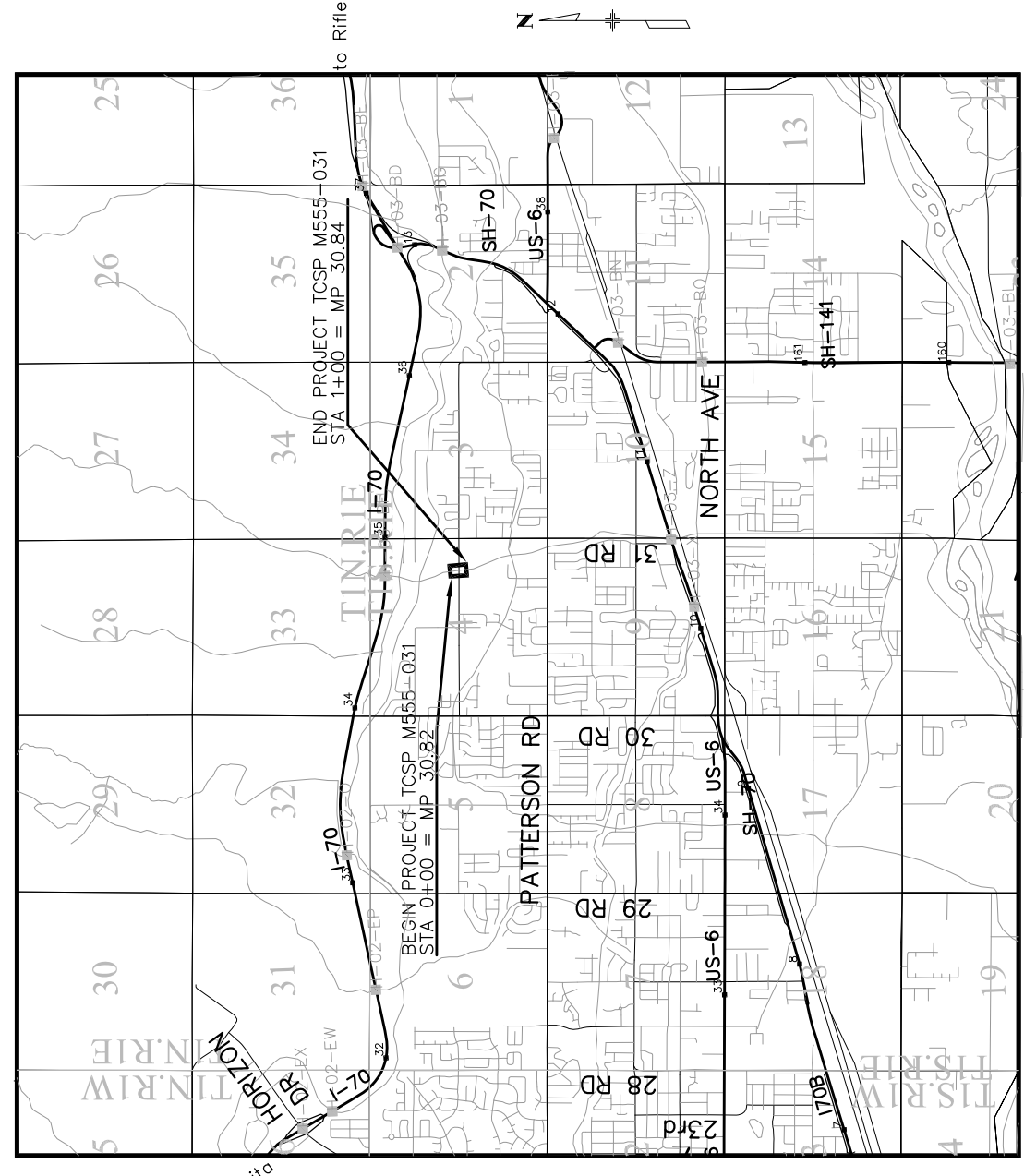
TABULATION DATA		
STATION	ROADWAY	STRUCTURE
BEGIN/END 0+00	120 FEET	
BEGIN/END 0+07 to 0+96		89 FEET

DESIGN DATA FOR F 1/2 ROAD		
MAX SPEED: 40 MPH		
ADT	2010	2017 (calc) 2040 (calc)
% TRUCK	1679	1929 3041
	5.0%	

City of Grand Junction

Department of Public Works

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED
FEDERAL AID PROJECT NO. BRO M555-031
 LEWIS WASH BRIDGE-GRJ F.5-30.8
MESA COUNTY
 CONSTRUCTION PROJECT CODE NO. 20432
 GRJ F.5-30.8 CBC Grand Junction Bridge Design Services



Print Date: 2017-01-18

File Name: Title Sheet GJ City Logo.dwg	Date:	Init:
Horiz. Scale: As Noted	Vert. Scale: As Noted	
Unit Information: City of GJ Unit Leader Initials: JUV		

CITY OF Grand Junction
 COLORADO

As Constructed
No Revisions:
Revised:
Void:

Contract Information		Project No./Code
Contractor:		BRO M555-031
Resident Engineer: Peter Lombardi		
Project Engineer: Justin Vensel		20432
PROJECT STARTED: ---/---/---	ACCEPTED: ---/---/---	Sheet Number 1
Comments:		



Know what's below.
 Call before you dig

Related Projects:
 P. E. UNDER PROJECT: BRO M555-031
 Project Number 20432
 Project Code:
 R.O.W. Projects:
 R.O.W. Project Description BRO M555-031

SHEET NO. _____ TITLE _____

- 1 Title Sheet
- 2 CDOT Standard Plan List
- 3 Survey Tabulation
- 4 General Notes
- 5 Summary of Approximate Quantities
- 6 Tabulations
- 7 Tabulations
- 8 Survey Control Diagram 3.01
- 9 Survey Control Diagram 3.02
- 10 Survey Control Diagram 3.03
- 11 Survey F.5 Road Baseline Data 5.01
- 12 Project Control Map
- 13 Removal Plan
- 14-15 General Layout
- 16 Engineering Geology
- 17 Geotechnical Investigation
- 18 F.5 Road Plan
- 19 F.5 Road Curb & Gutter Flowline Plan & Profiles
- 20 Grading Plan Overall
- 21 Grading Plan North
- 22 Grading Plan South
- 23-24 Box Structure Details
- 25 RipRap Limits
- 26 Scour Pad
- 27 Erosion Control
- 28-31 Storm Water Management Plan Notes
- 32 Detail Sheet
- 33 Detour Plan
- 34-36 Cross Section for F.5 Road
- 37 Cross Section for Structure GRJ F.5-30.8
- 38-39 CDOT Standard Plan No. M-601-2
- 40 CDOT Standard Plan No. M-601-20
- 41-60 CDOT Standard Plan No. M-606-1
- 61-62 CDOT Standard Plan No. M-629-1

TO ESTABLISH GEOMETRIC CONTROL FOR THE CONSTRUCTION OF THIS PROJECT, THE DEPARTMENT HAS PROVIDED THE FOLLOWING INFORMATION:

- Horizontal Control _____
 Vertical Control _____
 Roadway Alignment _____
 Original Terrain Data _____
 Other: _____
- Format *
 Control Diagram _____
 Control Diagram _____

* Specify the information format, i.e., plan sheet, computer disk, computer printout, or other. The information marked is either contained on the plans or is available from the Engineer.

TYPE OF PROJECT

- Landscaping
 Signalization
 Safety Improvement
 Asphalt Overlay
 Concrete Overlay
 Minor Widening
 Major Reconstruction
 New Roadway Construction
 Bridge Replacement
 Bridge Widening
 New Bridge
 Other: _____

SURVEY WORK TO BE PERFORMED BY OTHERS:

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 625:

- Establish and Maintain Project Centerline or Engineer Approved Offset Line(s)
 Verification and Maintenance of Horizontal and Vertical Control
 Verify or Determine existing grades and alignments
 Verify or Determine existing topography
 GPS/RTS (Global Positioning System/Robotic Total Station) Construction Machine Control
 Clearing and Grubbing Limits (Section 201)
 Removal Limits (Section 202)
 Reset Items (Section 210)
 Excavation and Embankment (Section 203)
 Other: _____

Excavation			
Slope Staking (Y/N)	Grid (Y/N)	Grade Stakes	Special Interval
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

Embankment			
Slope Staking (Y/N)	Grid (Y/N)	Grade Stakes	Special Interval
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

- Landscaping
 Top Soil (Section 207)
 Seeding (Section 212)
 Mulching (Section 213)
 Planting (Section 214)
 Herbicide (Section 217)
 Other: _____

- Erosion Control (Section 208)
 Seeding (Temp)
 Silt Fence
 Erosion Bales
 Erosion Logs
 Riprap (Temp)
 Other: _____

- Roadway Bases
 Untreated Subgrade
 Treated Subgrade
 Aggregate Base Course (Section 304)
 Recracking
 PMPBB – Plant Mix Bituminous Base
 Other: _____

Roadway Bases			
Grid (Y/N)	Grade (Y/N)	Special Interval	Special Offset
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

- Pavements
 HMA – Hot Mix Asphalt (Section 403)
 Concrete (Section 412)
 Heating & Scarifying Treatment
 Prime Coat, Tack Coat & Rejuvenating Agent (Section 407)
 Seal Coat or Chip Seal (Section 409)
 Other: _____

- Roadway Elements
 Curb and Gutter (Section 609)
 Drop inlets – alignment and grades (Section 604)
 Retaining Walls
 Guard Rail (Section 606)
 Sidewalk (Section 608)
 Overlay Stationing
 Other: _____

- Riprap (Perm) (Section 506)
 Slope and Ditch Paving (Section 507)

- Minor Structures
 Structure Excavation limits (Section 206)
 Culverts (Section 603)
 Culverts w/ Headwalls and Wingwalls (Section 601)
 Concrete Box Culverts w/ Headwalls and Wingwalls
 Pipes (Section 603)
 Sanitary Sewer
 Storm Sewer
 Water
 Irrigation
 Miscellaneous
 Manholes (Section 604)
 Inlets (Section 604)
 Permanent Water Quality BMP (Section 208)
 Other: _____

- Major Structures – Overhead signs (Section 614), Concrete Box Culverts, Bridges – and all other structures assigned a structure number
 Structure Excavation limits (Section 206)
 Concrete Box Culverts (Section 603) w/ Headwalls and Wingwalls (Section 601)
 Piling locations and cut off elevations (Section 502)
 Caisson locations and elevations (Section 503)
 Footing locations, alignment, and elevations
 Abutment/Pier locations, alignment, and elevations
 Wingwall skew angles/offsets
 Structural concrete form locations
 Substructure As-constructed survey required for Bridges (Subsection 601.12) and Overhead signs (S-314–50)
 Bridge expansion joint(s) alignment and grade (longitudinal and transverse)
 Deck Grades at Order 10th or "n" th point locations and elevations
 Slope and Ditch Paving (Section 507)
 Other: _____

- Fencing (Section 607)
 Temporary
 Permanent
 Sound Barrier
 Other: _____
- Delineators (Section 612)
 Temporary
 Permanent
- Lighting (Section 613) and Traffic Control Devices (Permanent) (Section 614)
 Signal pole locations and elevations
 Light pole locations and elevations
 Sign locations
 Field verify sign post locations, elevations, and lengths before fabrication.
 Other: _____
- Pavement Marking (Section 627)
 Striping (Temp)
 Striping (Perm)
 Symbols
 Other: _____

- Temporary Lighting and Construction Traffic Control Devices (Section 630)
 Signal pole locations and elevations (Temp)
 Light pole locations and elevations (Temp)
 Sign Locations (Temp)
 Other: _____

- Easements (Temp Staking by P.L.S. Only)
 Right of Way (Temp Staking by P.L.S. Only)

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 629:

- Monumentation (Section 629)
 Control
 Right of Way
 Land corners, Aliquot corners
 Easements
 Reference the specified existing monuments: ** _____
 Replace the specified existing monuments: ** _____
 Locate monuments. It is estimated _____ hours are required.

NOTE: All 629 items shall include adequate research, calculations, and evaluations of evidence for monuments to be set.

** A Tabulation of Survey Monuments may be provided on the plans.

GENERAL NOTES:

- Unless indicated otherwise on this Survey Tabulation Sheet, all survey work and staking intervals shall be done in accordance with the latest edition of the CDOT Survey Manual.
- Adequate information for establishing lines, grades, and locations for all work items have been specified on the plans. Any additional information required to stake the item or element shall be generated by the Contractor's surveyor.
- The Contractor's surveyor shall provide an estimate of the man-hours necessary to complete the work items indicated on this sheet. A copy of this sheet, with the estimated man-hours written on the blank line to the left of the specified items, shall be submitted with the Survey Schedule to the Engineer _____ days prior to the Presurvey Conference – Construction Survey.
- Stakes and Monuments which are damaged or destroyed by the progress of construction shall be replaced by the Contractor at no additional cost to the Department.
- The Contractor shall furnish an As Staked (or GPS/RTS Construction Machine Control) Earthwork Quantity report to the Engineer prior to completion of twenty percent (20%) of the planned earthwork in any phase as per the CDOT Survey Manual. A printed copy of the As Staked (or GPS/RTS Construction Machine Control) Earthwork data report and a computer disk with that information on it, in the specified format shall be submitted to the Engineer. The Contractor shall field verify original ground cross sections at a maximum 500 feet intervals.
- Prior to beginning work on any subsequent operation, such as placing base course or paving, the Contractor shall certify in writing to the Engineer that the final grade is within specified tolerance.
- The Contractor's surveyor shall perform all field surveying and calculations necessary to tie plan grades into field grades.
- The Contractor shall coordinate construction staking on the project with any utility work.
- Fieldbooks shall contain daily records of points set and or measurements observed. The information recorded shall contain: date, crew members' names, point no., description, staking information, and sketches. If the survey information is collected electronically, information recorded shall be provided to the Project Engineer in a hard copy format that is intuitive, clear and related to the supplemental information recorded in the field books. All linear surveys, such as slope stakes and blue taps, shall have the station and offset information related to the measured information. Non-linear surveys such as structures staking shall have sketches relating electronic information, such as point numbers, to the sketch.
- The Contractor's surveyor shall submit the following fieldbooks to the Engineer:
 - Horizontal Control (Primary & Secondary)
 - Vertical Control (i.e. Benchmarks)
 - Property Pin Ties
 - Horizontal Alignment
 - Grading
 - Slope Staking
 - Minor Structures
 - Major Structures
 - One fieldbook for each work category shown on this sheet
 - Other Fieldbook(s): _____

Sheet Revisions

Date:	Comments	Init.

As Constructed

No Revisions:	
Revised:	
Void:	

Project No./Code

BRO M555-031
20432
Sheet Number

Survey Tabulation

Designer: Justin Vensel	Structure Numbers	—
Detailer: Hanna M. Costanzo		—
Sheet Subset: -----	Subset Sheets:	3



Print Date: 2017-01-18

File Name: 02-07.dwg

Horiz. Scale: AS SHOWN AS SHOWN

Unit Information: City of GJ Unit Leader Initials: JUV

UTILITIES

1. UTILITY LINES SHOWN ON THE PLAN SHEETS ARE APPROXIMATE LOCATIONS. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 105.11 OF THE CDOT STANDARD SPECIFICATIONS CONCERNING UTILITIES.
2. THE CONTRACTOR SHALL CALL THE UTILITY NOTIFICATIONS CENTER OF COLORADO (UNCC) AT 811 FOR UTILITY LOCATIONS AT LEAST 2 BUSINESS DAYS PRIOR TO EXCAVATION. THE CONTRACTOR SHALL VERIFY ELEVATIONS OF EXISTING UTILITIES AT PROPOSED BRIDGE LOCATION AND ALL MATCH POINTS PRIOR TO CONSTRUCTION
3. THE FOLLOWING IS A LIST OF KNOWN UTILITIES WITH SERVICE WITH THE PROJECT AREA AND THEIR RESPECTIVE CONTACT INDIVIDUALS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL THE WORK BY OTHERS WITH THE PROJECT AREA.

CENTURY LINK	CHRIS JOHNSON	970-244-4311
XCEL ENERGY COMPANY	JON PRICE	970-244-2693
CLIFTON WATER DISTRICT	BRET GUILLORY	970-434-7328
GRAND VALLEY POWER	PERRY RUPP	970-242-0040
CHARTER	JEFF VALDEZ	970-263-2314
MESA COUNTY IRRIGATION DISTRICT	DAVE VORHEES	970-464-5154

QUANTITIES

1. FOR PRELIMINARY PLAN QUANTITIES OF PAVEMENT MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:
 AGGREGATE BASE COURSE (CLASS 6) @133 LBS/CU.FT
 HOT MIX ASPHALT SX (75) (PG 64-22) @147 LBS/CU.FT
2. CLASS D CONCRETE, SHALL UTILIZE TYPE 1/2 MODIFIED CEMENT FOR ASR MITIGATION.
3. ALL EARTHWORK AND STRUCTURAL FILL QUANTITIES ARE BASED ON THE ORIGINAL PROJECT CROSS SECTIONS. NO ALLOWANCES FOR SUBSIDENCE, COMPACTION, SWELLING ETC. HAS BEEN MADE.

EARTHWORK

1. WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED.
2. TYPE OF COMPACTION FOR THIS PROJECT WILL BE:
 FINE GRAIN SOILS - AASHTO 199 (STANDARD PROCTOR)
3. DEPTH OF MOISTURE DENSITY CONTROL FOR THE PROJECT SHALL BE AS FOLLOWS:
 FULL DEPTH OF ALL EMBANKMENTS
 BASE OF CUTS AND FILLS - 12 INCHES
4. EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY
5. PROOF ROLLING OF SUBGRADE WILL NOT MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
6. ALL REMOVAL AND WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR UNLESS INDICATED IN THE PLANS OR PROJECT SPECIAL PROVISIONS.

DRAINAGE AND WATER QUALITY

1. CONTROL OF SURFACE RUNOFF AND WINTERFLOWS AND THE REPAIR OF DAMAGES RESULTING FROM RUNOFF DURING CONSTRUCTION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND MITIGATION OF THE DAMAGES SHALL BE INCLUDED IN THE WORK.

CONSTRUCTION

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR THE ROAD AND BRIDGE CONSTRUCTION, DATED 2017; AND AS SUBSEQUENTLY REVISED; THE STANDARD PLANS DATED JULY 2012; AND AS SUBSEQUENTLY REVISED; AND IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS HERIN. DEWATERING OF GROUND WATER SHOULD BE ANTICIPATED DURING CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT THE PROPOSED DEWATERING METHOD TO THE CITY ENGINEER PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCEPTANCE AND CONTROL OF ALL SURFACE AND SUBSURFACE DRAINAGE AND GROUND WATER ENTERING THE PROJECT AREA, AND SHALL BE RESPONSIBLE FOR OBTAINING A CONSTRUCTION DEWATERING PERMIT FROM CDHPE IF CONDITIONS OF THEIR LOW RISK GUIDANCE FOR DISCHARGE OF UNCONTAMINATED GROUNDWATER TO LAND ARE NOT MET. THIS WORK WILL BE CONSIDERED INCIDENTAL AND TO BE INCLUDED AS PART OF THE CONSTRUCTION COSTS.
3. ALL WORK SHALL BE PERFORMED WITHIN RIGHT-OF-WAY OR TEMPORARY CONSTRUCTION EASEMENTS.
4. ANY OPEN EXCAVATIONS LEFT UNATTENDED SHALL BE BARRICADED OR FENCED OFF BY THE CONTRACTOR.
5. ANY TEMPORARY EXCAVATIONS SUPPORT (SHORING) REQUIRED TO CONSTRUCT CERTAIN ELEMENTS OF THIS PROJECT WILL NOT BE MEASURED OR PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
6. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE CITY OF GRAND JUNCTION PUBLIC WORKS DEPARTMENT OR THEIR ASSIGNED REPRESENTATIVE. THE CITY AND THEIR REPRESENTATIVE RESERVE THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DO NOT CONFORM TO THE PLANS AND SPECIFICATIONS LISTED HEREIN. REQUIRED QUALITY CERTIFICATIONS AND DOCUMENTATION SHALL BE SUBMITTED TO THE CITY PRIOR TO PLACEMENT OR USE OF MATERIAL.
7. PROJECT INSPECTION AND QUALITY ASSURANCE TESTING WILL BE PROVIDED BY THE CITY. THE CONTRACTOR SHALL BE REQUIRED TO SUPPLY ALL QUALITY CONTROL TESTING FOR THE PROJECT.
8. THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS AS SHOWN ON THE PLANS AND CROSS SECTIONS. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. CONSTRUCTION ACTIVITIES IN ADDITION TO NORMAL CONSTRUCTION PROCEDURES SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF DEBRIS OR ANY OTHER ACTION WHICH COULD ALTER THE EXISTING CONDITION.
9. COLD WEATHER CONCRETING OPERATIONS SHOULD BE ANTICIPATED FOR THIS PROJECT. THESE OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH CDOT STANDARD SPECIFICATIONS SECTION 601 AND 203. THIS COST SHALL BE INCLUDED IN THE WORK.
10. THE CONTRACTOR SHALL HAVE: ONE (1) COPY OF THE FOLLOWING; GEOTECHNICAL INVESTIGATION, PLANS, AND PROJECT SPECIFICATIONS.
11. WHERE CUTTING OF ASPHALT PAVEMENT IS REQUIRED, THE CUTTING SHALL BE DONE TO A NEAT WORK LINE WITH A SAW OR CUTTING WHEEL AS APPROVED BY THE ENGINEER. THIS WORK WILL BE INCLUDED IN THE SY PRICE FOR REMOVAL OF ASPHALT UNDER ITEM 202.
12. ALL SURVEYING NECESSARY TO COMPLETE THE WORK SHALL BE DONE BY THE CONTRACTOR. REFER TO SURVEY TABULATION SHEET.
13. CLEARING AND GRUBBING WILL BE PAID FOR AS A LUMP SUM. THIS ITEM SHALL INCLUDE ALL VEGETATION REMOVAL IN THE IMPACTED AREAS.

SIGNING, STRIPING AND TRAFFIC CONTROL

1. CONSTRUCTION TRAFFIC CONTROL SHALL CONFORM TO THE MUTCD AND CDOT M&S STANDARDS. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT A MHT TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL OBTAIN A NTP PRIOR TO ANY WORK WITHIN THE ROW.
2. THE CONTRACTOR SHALL DETERMINE WHERE TO STOCKPILE MATERIAL OR STORE EQUIPMENT FOR THE PROJECT. TRAFFIC CONTROL MEASURES REQUIRED TO ACCOMMODATE MATERIAL AND EQUIPMENT STORAGE SHALL BE INCLUDED IN THE MHT.
3. F ½ ROAD SHALL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION. ALL CLOSURES MUST BE APPROVED BY THE CITY OF GRAND JUNCTION PUBLIC WORKS AND CDOT.

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Horiz. Scale: AS SHOWN AS SHOWN

Unit Information: City of GJ Unit Leader Initials: JUV

Sheet Revisions

Date:	Comments	Init.



As Constructed

No Revisions:

Revised:

Void:

General

Notes

Designer: Justin Vensel

Detailer: Hanna M Costanzo

Sheet Subset: _____

Project No./Code

BRO M555-031

20432

Sheet Number **4**

Structure Numbers: _____

Subset Sheets: _____

Bid Schedule: 20432 Lewis Wash Bridge GRJ F.5-30.8

Company Name: _____

BRO M555-031 Project: 20432

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
1	201-00000	Clearing and Grubbing	0.17	ACRE	\$ _____	\$ _____
2	202-00020	Removal of Concrete Box Culvert (Twin CBC)	1	LS	\$ _____	\$ _____
3	202-00070	Removal of Barricade	2	EA	\$ _____	\$ _____
4	202-00200	Removal of Sidewalk	20	SY	\$ _____	\$ _____
5	202-00220	Removal of Asphalt Mat	295	SY	\$ _____	\$ _____
6	202-01000	Removal of Fence	26	LF	\$ _____	\$ _____
7	202-01130	Removal of Guardrail Type 3	102	LF	\$ _____	\$ _____
8	202-04060	Dust Abatement	1	LS	\$ _____	\$ _____
9	202-05004	Saw Cut Concrete (4 inch)	14	LF	\$ _____	\$ _____
10	203-00000	Unclassified Excavation	405	CY	\$ _____	\$ _____
11	203-00100	Muck Excavation	55	CY	\$ _____	\$ _____
12	206-00100	Structural Backfill Material (Class 1)	810	CY	\$ _____	\$ _____
13	206-00510	Filter Material (Class A)	27	CY	\$ _____	\$ _____
14	208-00002	Erosion Logs (12 Inch)	146	LF	\$ _____	\$ _____
15	208-00045	Concrete Washout Structure	1	EA	\$ _____	\$ _____
16	208-00070	Vehicle Track Pad	2	EA	\$ _____	\$ _____
17	208-00103	Removal and Disposal of Sediment (Labor)	40	HOURL	\$ _____	\$ _____
18	210-00050	Reset Fire Hydrant	1	EA	\$ _____	\$ _____
19	210-01000	Reset Fence	26	LF	\$ _____	\$ _____
20	210-02010	Relay Pipe (10 inch)(irrigation)	61	LF	\$ _____	\$ _____
21	212-00007	Seeding(Native)(Hydraulic)	0.1	ACRE	\$ _____	\$ _____
22	240-00010	Removal of Nests	40	HOURL	\$ _____	\$ _____
23	240-00020	Netting	50	SY	\$ _____	\$ _____
24	304-03000	Aggregate Base Course (Class 3)	1,000	CY	\$ _____	\$ _____
25	304-06000	Aggregate Base Course (Class 6)	300	CY	\$ _____	\$ _____
26	403-34752	Hot Mix Asphalt (Patching)(Grading SX)(75)(PG 64-22)(6" Thick)	96	TON	\$ _____	\$ _____
27	420-00103	Geotextile (Erosion Control) (Class 2)	255	SY	\$ _____	\$ _____
28	506-00206	Riprap (6 Inch)	19	CY	\$ _____	\$ _____

Bid Amount: _____

dollars

Bid Amount: \$ _____

29	506-00212	Riprap (12 Inch)	200	CY	\$ _____	\$ _____
30	515-00120	Waterproofing (membrane)	188	SY	\$ _____	\$ _____
31	601-03030	Concrete Class D (Box Culvert)	235	CY	\$ _____	\$ _____
32	601-03050	Concrete Class D (Wall)	69	CY	\$ _____	\$ _____
33	602-00020	Reinforcing Steel (Epoxy Coated)	49,000	LB	\$ _____	\$ _____
34	603-82004	4 Inch Ductile Iron Pipe (Gas Sleeve)	87	LF	\$ _____	\$ _____
35	606-00310	Guardrail Type 3A	88	LF	\$ _____	\$ _____
36	606-01385	Transition Type 3J	1	EA	\$ _____	\$ _____
37	606-01390	End Anchorage Type 3K	1	EA	\$ _____	\$ _____
38	606-00400	End Anchorage (Special)(NCHRP 350 TL-2)(25 Feet)	3	EA	\$ _____	\$ _____
39	608-00000	Concrete Sidewalk (4 Inch)	94.5	SY	\$ _____	\$ _____
40	608-10000	Sidewalk Drain	5.5	LF	\$ _____	\$ _____
41	609-24000	Gutter Type 2 (Special)	155.5	LF	\$ _____	\$ _____
42	619-50480	6 Inch Plastic Pipe	137	LF	\$ _____	\$ _____
43	619-51280	16 Inch Plastic Pipe	102	LF	\$ _____	\$ _____
44	619-75048	6 Inch Butterfly Valve	1	EA	\$ _____	\$ _____
45	619-76130	16 Inch Butterfly Valve	1	EA	\$ _____	\$ _____
46	620-00020	Sanitary Facility	1	EA	\$ _____	\$ _____
47	625-00000	Construction Surveying	Lump Sum		---	\$ _____
48	626-00000	Mobilization	Lump sum		---	\$ _____
49	627-00005	Epoxy Pavement Marking	4	GAL	\$ _____	\$ _____
50	629-01006	Survey Monument (Type 6)	13	EA	\$ _____	\$ _____
51	630-10005	Traffic Control	Lump sum		---	\$ _____
52	700-70010	F/A Minor Contract Revisions	---	---	---	\$ 30,000.00
53	700-70170	F/A Pothole Utilities	40	HOURL	---	\$ _____
54	700-70550	F/A Blading	40	HOURL	---	\$ _____

		As Constructed		Summary of Approximate Quantities		Project No./Code	
No Revisions: _____		Revisions: _____		Designer: Justin Vensel Detailer: Hanna M Costanzo		BRO M555-031 20432	
Date: _____		Comments: _____		Structure Numbers: _____		Sheet Number: 5	
Unit Information: City of GJ Unit Leader Initials: JUV		Sheet Subsets: _____		Subsets: _____		Sheet Subsets: _____	

TABULATION OF REMOVALS

STATION	(202-00200) REMOVAL OF SIDEWALK		(202-00220) REMOVAL OF ASPHALT MAT		(202-00201) REMOVAL OF GUARDRAIL		(202-00090) REMOVAL OF SIGN		(202-00070) REMOVAL OF BARRICADE		(202-01000) REMOVAL OF FENCE		(202-00020) REMOVAL OF CONCRETE BOX CULVERT		COMMENTS
	Plan	As Const	Plan	As Const	Plan	As Const	Plan	As Const	Plan	As Const	Plan	As Const	Plan	As Const	
F 1/2 ROAD															
0+56.5, 12.6' RT TO 1+43.6, 12.8' RT	20														SOUTH SIDE OF F 1/2 RD TO TIE IN SIDEWALK
0+48.2, 11.1' RT TO 1+56.7, 15.1' LT			295												SOUTH SIDE
0+79.7, 13.1' RT TO 1+32.1, 13' RT					54										NORTH SIDE
0+68.53, 17.3' LT TO 1+20.76, 16.14' LT					52										TO BE RE-INSTALLED BY CITY CREWS
1+08.63, 15.82' LT						1									TO BE RE-INSTALLED BY CITY CREWS
1+19.23, 13.8' RT						1									TO BE RE-INSTALLED BY CITY CREWS
1+20.85, 16.58' LT						1									
1+30.61, 16.75' RT							1								
1+32.56, 20.69' RT								1							PEDESTRIAN BRIDGE 4' TALL CHAINLINK
0+65, 20' RT TO 1+34, 23' RT									1						PEDESTRIAN BRIDGE 4' TALL CHAINLINK
0+78, 14' RT TO 1+19, 14' RT										71					4' TALL WOODRAIL FENCE
0+34, 19' LT TO 0+60, 19' LT										41					REMOVAL OF STRUCTURE, WINGWALLS AND PEDESTRIAN WALK
0+67, 30' LT TO 1+14, 26' LT										26					
0+76, 28' RT TO 1+22, 31' RT												1			
PROJECT TOTALS	20		295		106	3	2	138	1						

TABULATION OF MISCELLANEOUS

STATION	(210-00050) RESET FIRE HYDRANT		(210-01000) RESET FENCE		(420-00103) GEOTEXTILE (DRAINAGE)/CLASS 2/(TO BE INCLUDED WITH FILTER MATERIAL CLASS A)		(619-50480) 6 INCH PLASTIC PIPE		(619-51280) 16 INCH PLASTIC PIPE		(619-75048) 6 INCH BUTTERFLY VALVE		(619-76130) 16 INCH BUTTERFLY VALVE		(629-01006) SURVEY MONUMENT (TYPE 6)		COMMENTS	
	Plan	As Const	Plan	As Const	Plan	As Const	Plan	As Const	Plan	As Const	Plan	As Const	Plan	As Const	Plan	As Const		
F 1/2 RD																		
0+60.54, 21.5' LT	1																	
0+34, 19' LT TO 0+60, 19' LT			26															
0+45, 29.8' RT TO 0+71.5, 24.8' RT																		
0+35, 24' LT TO 0+61.5, 29' LT																		
AS DIRECTED BY ENGINEER					170													
0+51.9, 21.2' LT TO 1+61.5, 8.5' LT																		
0+49.4, .5' LT TO 1+50.8, .4' LT									102									
0+63.7, 18.5' LT																		
0+50.5, .5' LT																		
ROW PLANS for Northing and Easting																		
PROJECT TOTALS	1		26		170	137	102	1	12	12								

TABULATION OF CBC CONCRETE AND REBAR

STATION	(601-03030) CONCRETE CLASS D (BOX CULVERT)		(601-03050) CONCRETE CLASS D (WALL)		(602-00020) REINFORCING STEEL (EPOXY COATED)		COMMENTS
	Plan	As Const	Plan	As Const	Plan	As Const	
F 1/2 ROAD							
0+62.44, 48.25' LT TO 1+16.91, 55.74' RT	235				43291		Box Structure
0+62.44, 48.25' LT TO 0+72.29, 30.92' LT			15		1211		NORTHWEST WINGWALL
0+99.18, 31.35' LT TO 1+00.44, 50.32' LT			14		1612		NORTHEAST WINGWALL
0+84.09, 31.50' RT TO 0+89.40, 61.11' RT			22		1538		SOUTHWEST WINGWALL
1+11.10, 31.51' RT TO 1+16.91, 55.74' RT			18		1348		SOUTHEAST WINGWALL
PROJECT TOTALS	235		69		49000		

SUMMARY OF EARTHWORK QUANTITIES

INDEX	PROJECT TOTAL	
	CU. YD.	As Const.
UNCLASSIFIED EXCAVATION (CIP) (203-00010)	405	
0+62.44, 48.25 LT TO 1+27.57, 50.93' RT		
TOTAL FOR PAY QUANTITIES	405	
STRUCTURAL BACKFILL MATERIAL (CLASS 1)	810	
0+62.44, 48.25 LT TO 1+27.57, 50.93' RT		
TOTAL	810	
FILTER MATERIAL (CLASS A)	27	
0+62.44, 48.25 LT TO 1+27.57, 50.93' RT		
TOTAL	27	

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Comments _____

Init. _____

As Constructed

No Revisions:

Revised:

Void:

Tabulations

Designer: Justin Vensel

Detailer: Hanna M Costanzo

Structure Numbers

Sheet Subsets: _____

Project No./Code

BRO M555-031

204.32

Sheet Number

6



SURFACING TABULATION

STATION	(304-03000) AGGREGATE BASE COURSE (CLASS 3)		(304-06000) AGGREGATE BASE COURSE (CLASS 6)		(403-34752) HOT MIX ASPHALT (PATCHING) (ASPHALT) GRADING SX (75) (PG)		COMMENTS
	TON		TON		TON		
	Plan	As Const.	Plan	As Const.	Plan	As Const.	
F 1/2 ROAD							
0+72, 31' LT TO 1+11, 32' RT	560		460		96		ROAD PRISM
0+42, 73' LT TO 1+22, 56' LT	125		30				WINGWALLS AND WALK (NORTH SIDE)
0+68, 31' RT TO 1+36, 36' RT	125		37				WINGWALLS AND WALK (SOUTH SIDE)
PROJECT TOTAL	810		527		96	0	

TABULATION OF GUARDRAIL, CURB, AND GUTTER

STATION	(606-00310) GUARD RAIL TYPEY 3A (31in MGS)		(606-01385) TRANSITION TYPE 3J (31in MGS)		(606-01390) END ANCHORAGE TYPE 3K		(606-00400) END ANCHORAGE (NCHRP 350 TL-2) (25")		(608-00000) CONCRETE SIDEWALK (4 INCH)		(608-10000) SIDEWALK DRAIN		(609-24000) GUTTER TYPE 2 (SPECIAL)		COMMENTS
	LF		EACH		EACH		SY		SY		LF		LF		
	Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.	Plan	As Const.	
F 1/2 ROAD															
0+88 22' RT TO 1+13 22' RT	25														
0+86.5 22' LT TO 1+12 22' LT	25.5														
0+61.5 22' LT TO 0+86.5 22' LT					1										
1+33 29' LT TO 1+36 39' LT															
0+63 22' RT TO 0+88 22' RT					1										
1+13 22' RT TO 1+38 22' RT															
1+12 22' LT TO 1+33 29' LT					1										
0+61 12' LT TO 1+29 12' LT															
0+56 12' RT TO 1+43 12' RT															
0+61 14' LT TO 1+29 14' LT								36.5							68
0+56 14' RT TO 1+43 14' RT								54.9							87
1+00 13.50' RT TO 1+00 19.5' RT										6					
SUB TOTAL SHT 1	50.5		1		1		3	94.4		6		155			

TABULATION OF PAVEMENT MARKINGS

LOCATION	(627-00005) EPOXY PAVEMENT MARKING				(627-30410) PREFORMED THERMOPLASTIC PAVEMENT MARKING (XWALK- STOP LINE)				COMMENTS	
	ASPHALT ONLY (TWO COATS @ 90 SF/GAL.) (APPLY ONE DAY APART)		WHITE SOLID		WHITE SOLID		WHITE SOLID			
	4 INCH LF	8 INCH LF	4 INCH LF	8 INCH LF	4 INCH LF	8 INCH LF	4 INCH LF	8 INCH LF		
B 1/2 ROAD										
0+49 0.5' RT TO 1+58 0.5' RT										
0+49 0.5' LT TO 1+58 0.5' LT										
0+49 11.5' LT TO 1+58 11.5' LT				101						CL MARKING
0+49 11.5' RT TO 1+58 11.5' RT				101						CL MARKING
										NORTH EDGE MARKING
										SOUTH EDGE STRIPEMARKING
TOTAL (LF) =	404			0				0		
TOTAL (SF) =	135			0				0		
TOTAL (GAL) =	1			1				0		
TOTAL GALLON PER COLOR OF PAINT=	1			1				1		

Print Date: 2017-01-18

File Name: 02-07.dwg

Horiz. Scale: AS SHOWN

Unit Information: City of GJ Unit Leader Initials: JUV

Sheet Revisions

Date:	Comments	Init.



As Constructed

No Revisions:

Revised:

Void:

Tabulations

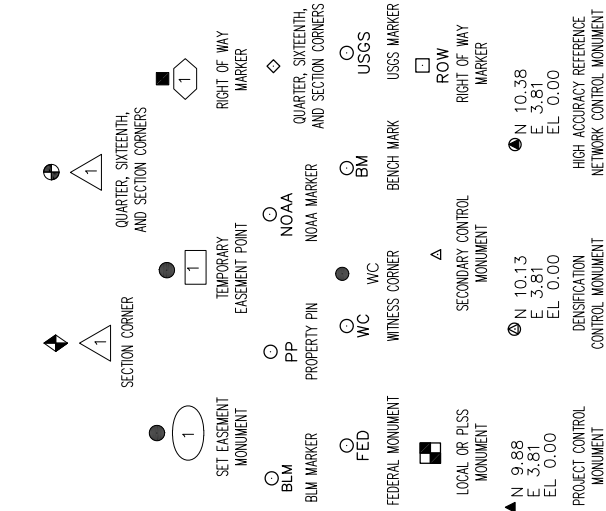
Designer: Justin Vensel	Structure Numbers	
Detailer: Hanna M Costanzo		
Sheet Subset: -----		

Project No./Code

BRO M555-031

204.32

Sheet Number 7



Note: For a complete listing of symbology used within this set of plans, please refer to the M-100-1 Standard Symbols of the Colorado Department of Transportation M&S Standards Publication dated July 2006. Existing features are shown as screened weight (gray scale), except as noted with the word (existing). Proposed or new features are shown as full weight without screening, except as noted with the word (proposed)

General Notes:

- All primary control points were set to meet CDOT Class A specifications. All secondary control points, aerial panel points and ROW points were set and/or located to meet CDOT Class B specifications.
- This Land Survey Control Diagram is not a boundary survey of the adjoining property and is prepared for the Colorado Department of Transportation purposes only. No determination has been made to determine if the found monuments as shown are in their proper position or if they are at the corners they are intended to monument.
- Title policy, title commitment and title research are not part of this survey, therefore easements, rights and restrictions of record were not researched and are not shown on this diagram. The verification of the physical evidence with relation to easements, rights of ways, property boundaries and restrictions, as described in the instruments of record, were not included in this control survey.
- This plan set is subject to change and may not be the most current set. It is the user's responsibility to verify with CDOT that this set is the most current. The information contained on the attached drawing is not valid unless this copy bears an original signature of the Professional Land Surveyor hereon named.
- Refer to the M-629-1 Survey Monuments of the Standard Plans dated July, 2006 found in the Colorado Department of Transportation, M & S Standards for typical survey monument descriptions.

Sheet Revisions		Sheet Revisions		Sheet Revisions	
Date	Description	Date	Description	Date	Description
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mm/dd/yy	XXXXXXX	mm/dd/yy	XXXXXXX	mm/dd/yy	XXXXXXX
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XXX	mm/dd/yy	XXXXXXX
XXX	mm/dd/yy	XXXXXXX
XXX	mm/dd/yy	XXXXXXX

250 North 5th Street Grand Junction, Co 81501	

Survey Control Diagram	
Title Sheet	
Project Number: BRO M555-031	
Project Location: F.5 ROAD	
FROM MP 30.82 to MP 30.84	
Project Code: 20432	Last Mod. Date: 2017-01-18
Sheet No. 3.01	Subset 3.01 of 3.03
Total 9	

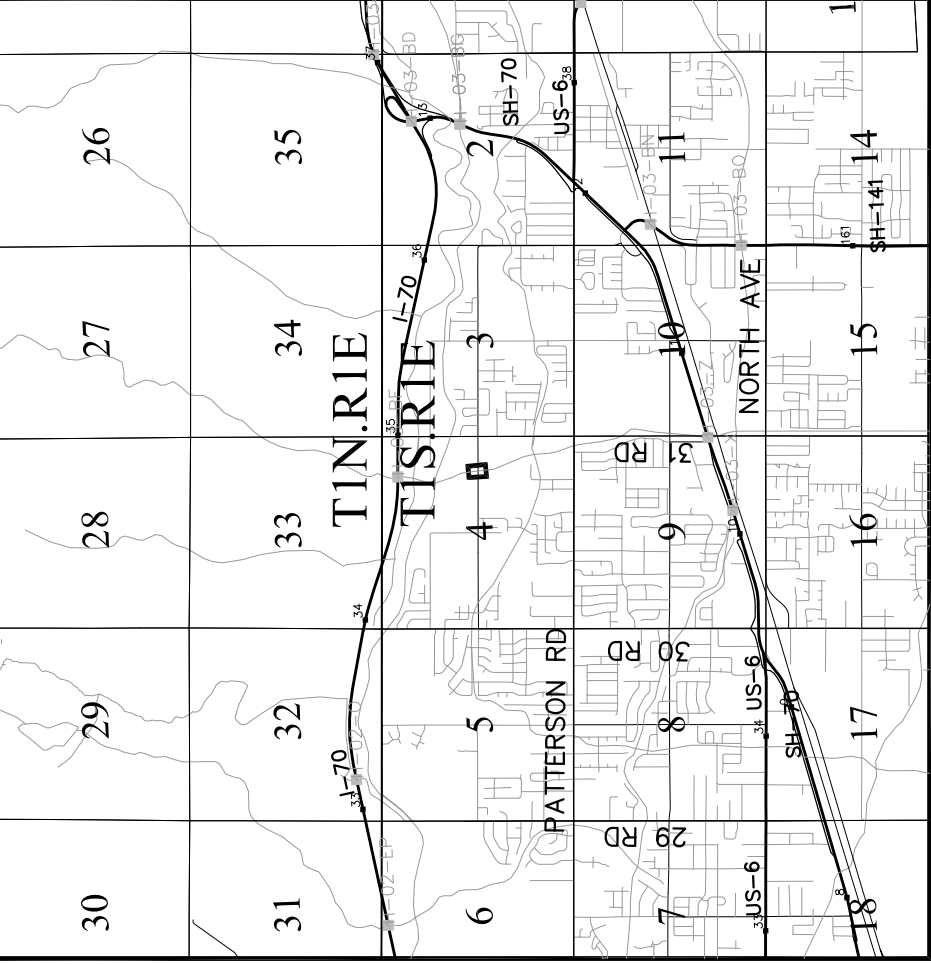
City of Grand Junction

Department of Public Works

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED
FEDERAL AID PROJECT NO. BRO M555-031
LEWIS WASH BRIDGE-GRJ F.5-30.8
MESA COUNTY

SECTION 4, TOWNSHIP 1 SOUTH, RANGE 1 EAST
GRJ F.5-30.8 CBC Grand Junction Bridge Design Services

SHEET NO.	INDEX OF SHEETS
3.01	(1) Title Sheet
3.02	(1) Control Coordinate Tables
3.03	(1) Monument Coordinate Tables & Plan Sheet
	(3) Total Sheets



BASIS OF BEARINGS
All bearings noted hereon are based true geodetic North at the central Meridian of the Mesa County Local Coordinate System. The South line of the SE 1/4 NE 1/4 Section 4, Township 1S, Range 1E, of the Ute Principal Meridian is assumed to bear S 89°58'59" W with the West end of said line being a 3" brass cap in concrete down 9" in an aluminum box down 1" with no lid (CE 16th Corner) and the East end of said line being a 3" brass cap in concrete down 4" in an aluminum box with no no lid (East Quarter Corner)

BASIS OF ELEVATION
Elevations shown hereon are based upon the NAVD88 Datum

COORDINATE DATUM:
See COORDINATE SYSTEM - Sheet 3.02

LINEAR UNITS:
Linear units shown hereon are based upon the U.S. Survey Foot

NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

PROJECT LOCATION MAP

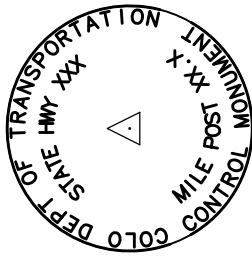
Colorado Department of Transportation



222 South 6th Street Room 317
Grand Junction, Colorado 81501
Phone: 970-683-6234 FAX: 970-683-6249

Region 3

LED



Typical Control Monument
Not to Scale

COORDINATE SYSTEM:

The coordinate system used for this Project is the Mesa County LCS (Local Coordinate System) zone "GVALCS" being a Transverse Mercator Coordinate Projection where as the Point of Origin (N50,000/E100,000) and Central Meridian being the SIMS point SN01 and GLO6 (Initial Point - Ute Meridian). The Geodetic Coordinates of said SIMS point SN01 being Lat. 39°06'22.72746 N and Long. -108°32'01.43552" W. Basis of Bearings is True Geodetic North at the Central Meridian.

(sft) = (survey foot)

Sheet Revisions

Date mm/dd/yy	Description	Initials
	XXXXXXXXXX	XXX

Sheet Revisions

Date mm/dd/yy	Description	Initials
	XXXXXXXXXX	XXX

Sheet Revisions

Date mm/dd/yy	Description	Initials
	XXXXXXXXXX	XXX

Survey Control Diagram

Control Coordinate Tables
Project Number: BRO M555-031
Project Location: F.5 ROAD
FROM MP 30.82 to MP 30.84
Project Code: Last Mod. Date: 2017-01-18
Subset: 3.02 of 3.03
Sheet No. 9



250 North 5th Street
Grand Junction, Co 81501

CONSTRUCTION SURVEYING AND MONUMENTATION REQUIREMENTS

1) This Control Survey Diagram represents the horizontal and vertical control for the project established by the Division. It is possible that some of the survey control monuments listed have been disturbed or obliterated. It is the Contractor's Responsibility to verify the existence and stability of the control monuments before submitting a bid price.

2) All Type 1 and Type 2 monuments shall be set flush with the ground. Witness posts shall be installed 1 foot from and facing all Type 1 and Type 2 monuments, or as directed by the Project Engineer.

3) Installation of Type 3 and Type 3-A monuments shall be completed in the same day that installation is commenced. Under no circumstances shall holes in the roadway be left open over night.

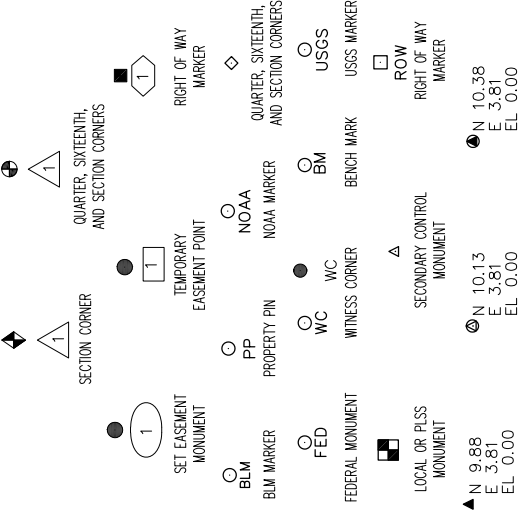
4) When installing Type 3-A monuments, the aluminum access cover shall be positively secured to the PVC pipe with screws or glue. The access cover shall be calked with asphalt calking between the cover and the edges of the roadway surface to provide a positive moisture barrier around the access cover.

5) Control survey procedures, statistical analysis, and accuracy obtained for horizontal and vertical control shall be documented in the field book.

6) Legible copies of the field books shall be submitted to the Project Engineer for review on a monthly basis.

7) It is ultimately the Prime Contractor's responsibility to insure that these requirements, as well as any contained in the CDOT specifications, project special provisions, and CDOT Survey Manual are fulfilled under this contract.

8) The minimum staking intervals for each item are described on the plans or in the CDOT Survey Manual. If the contractor wishes to reduce the minimum intervals, a Contract Modification Order must be negotiated and the cost of the item reduced accordingly.



Note: For a complete listing of symbology used within this set of plans, please refer to the M-100-1 Standard Symbols of the Colorado Department of Transportation M&S Standards Publication dated July 2006. Existing features are shown as screened weight (gray scale), except as noted with the word (existing). Proposed or new features are shown as full weight without screening, except as noted with the word (proposed)

NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

GEODETIC CONTROL COORDINATE SUMMARY TABLE (ADJUSTED FIELD DATA)

POINT NAME	GEODETIC COORDINATES			STATE PLANE COORDINATES			PROJECT COORDINATES		ELEV (WGS 1984)sft	ELLIPSOID HEIGHT	CONVERGENCE	SCALE FACTOR	DESCRIPTION
	LATITUDE	LONGITUDE		NORTHING (sft)	EASTING (sft)	NORTHING (sft)	EASTING (sft)						
1	39°05'56.5858" N	-108°28'51.5358" W		1474848.297	2154173.272	47358.96	114974.27	4753.245	4697.916	-0°01'59.76"	1.000184	CP /PK DWY 3084/ CP SET PK NAIL IN PAVT DWY APRON	
2	39°05'56.5899" N	-108°28'48.3337" W		1474840.428	2154425.575	47359.52	115226.77	4751.391	4696.065	-0°02'01.78"	1.000185	CP /PK/ CP SET PK NAIL IN PAVT NW COR F 1/2 RD & ALLEGHANY DR	
56	39°05'56.4479" N	-108°28'40.7347" W		1474806.428	2155023.818	47345.51	115825.98	4752.489	4696.065	-0°02'06.57"	1.000186	3" BRASS CAP IN CONCRETE DOWN 4" IN ALUMINIUM BOX NO LID	
79	39°05'56.4517" N	-108°28'57.4827" W		1474850.123	2153704.277	47345.12	114505.35	4752.534	4696.065	-0°01'56.01"	1.000184	3" BRASS CAP IN CONCRETE DOWN 9" IN ALUMINIUM BOX DOWN 1" NO LID	



Date	Initials	Description
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Date	Initials	Description
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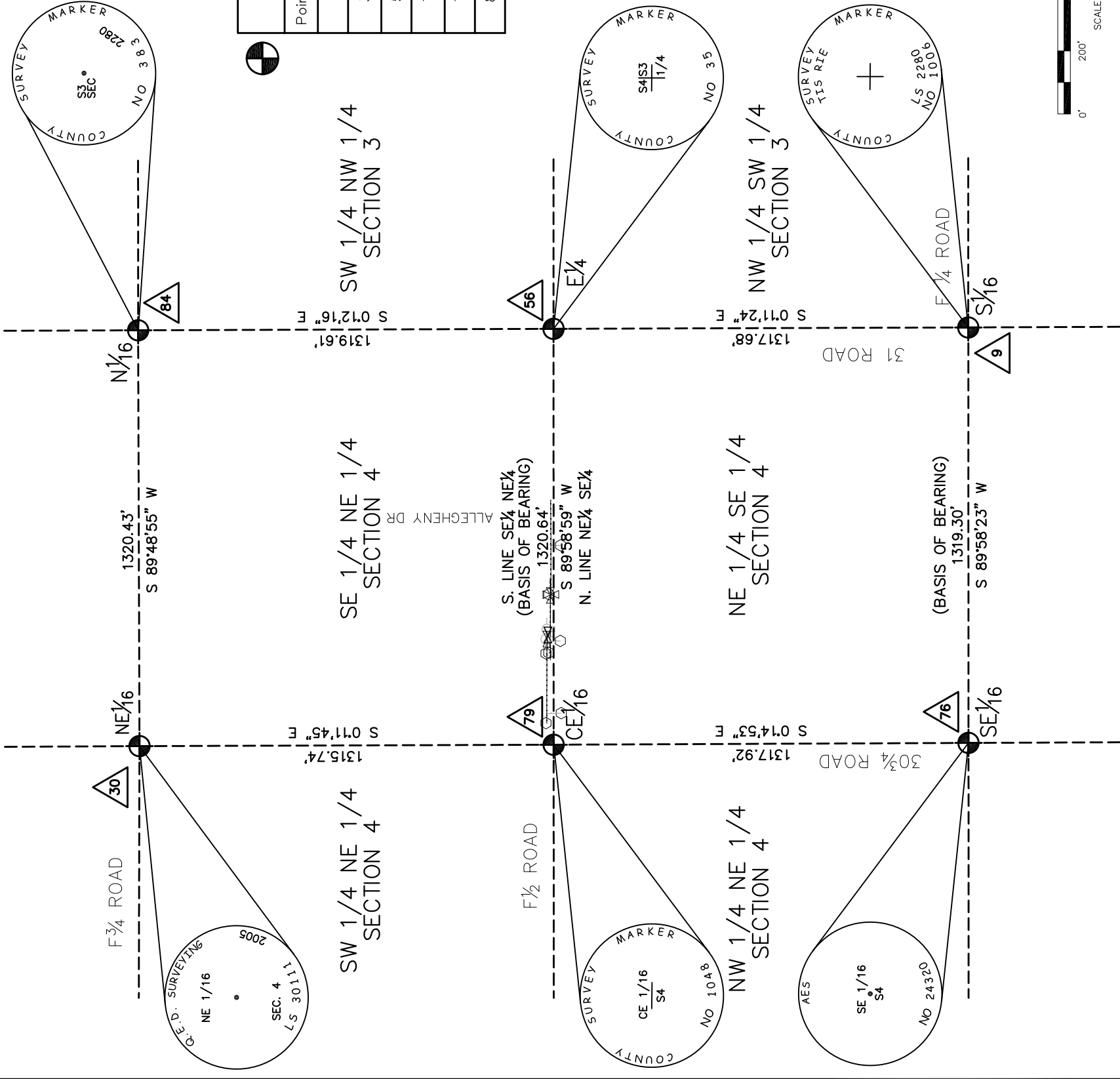
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Project Code	Last Mod. Date	Subset	Sheet No.	Total
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CITY OF Grand Junction COLORADO
250 North 5th Street
Grand Junction, Co 81501

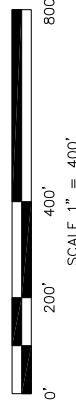
Project Number: BRO M555-031
Project Location: F.5 ROAD
FROM MP 30.82 to MP 30.84

SE 1/4 NE 1/4 Section 4, TWP 1S, RGE 1E, U.P.M.



FOUND ALIQUOT MONUMENT COORDINATE TABLE

Point No	Northing (sft)	Easting (sft)	Description
9	46027.84	115830.35	3" BRASS CAP IN CONCRETE DOWN 5"
30	48660.85	114500.85	2.5" ALUMINUM CAP ON 3/4" REBAR IN N/S FENCE LINE UP 2"
56	47345.51	115825.98	3" BRASS CAP IN CONCRETE DOWN 4" IN ALUMINUM BOX NO LID
76	46027.21	114511.05	2.5" ALUMINUM CAP IN CONCRETE ON SURFACE (UNDER LANDSCAPE MAT)
79	47345.12	114505.35	3" BRASS CAP IN CONCRETE DOWN 9" IN ALUMINUM BOX DOWN 1" NO LID
84	48665.11	115821.28	3" BRASS CAP IN CONCRETE DOWN 6" IN ALUMINUM BOX DOWN 2" NO LID



Sheet Revisions

Date	Description	Initials
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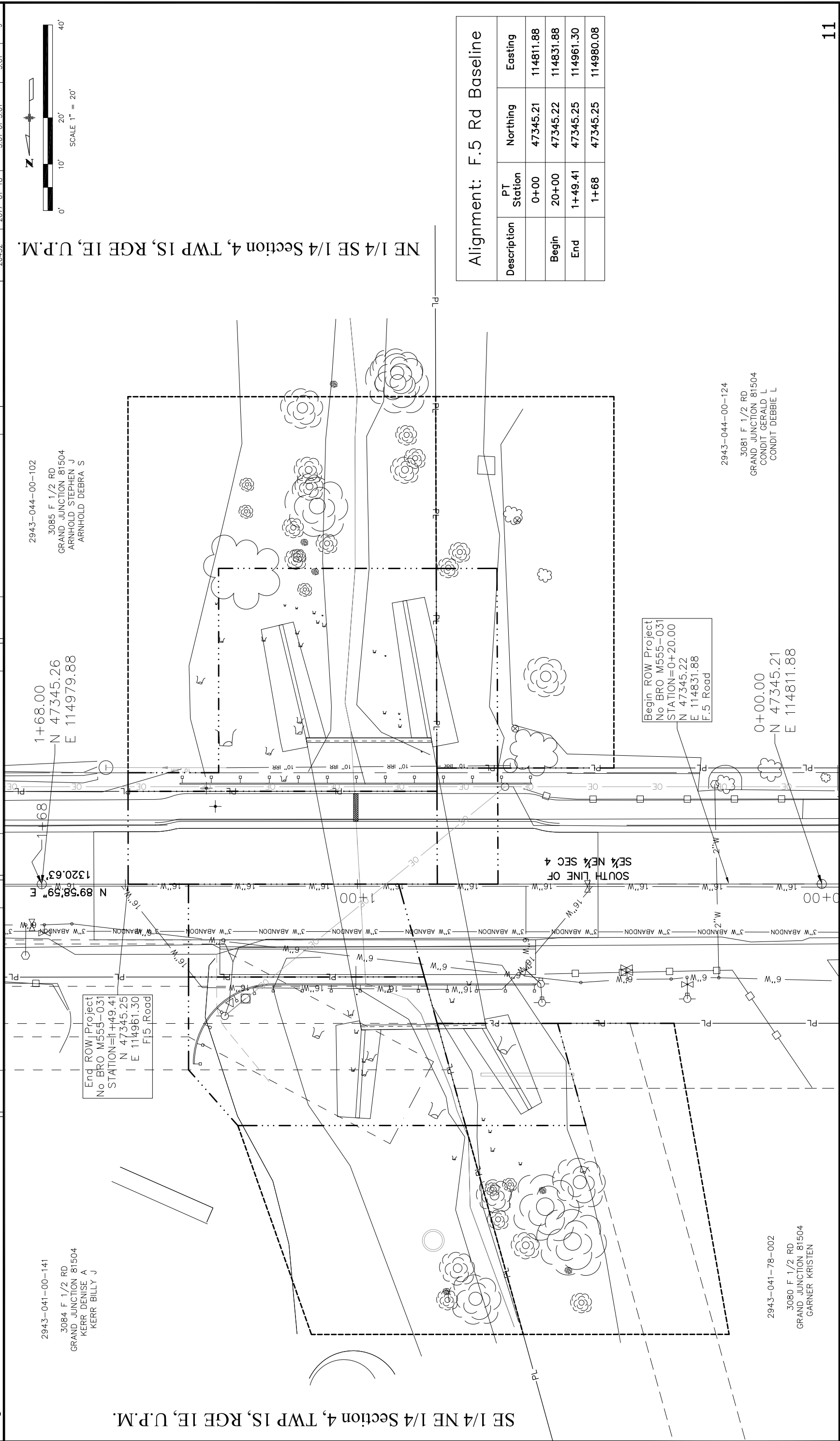
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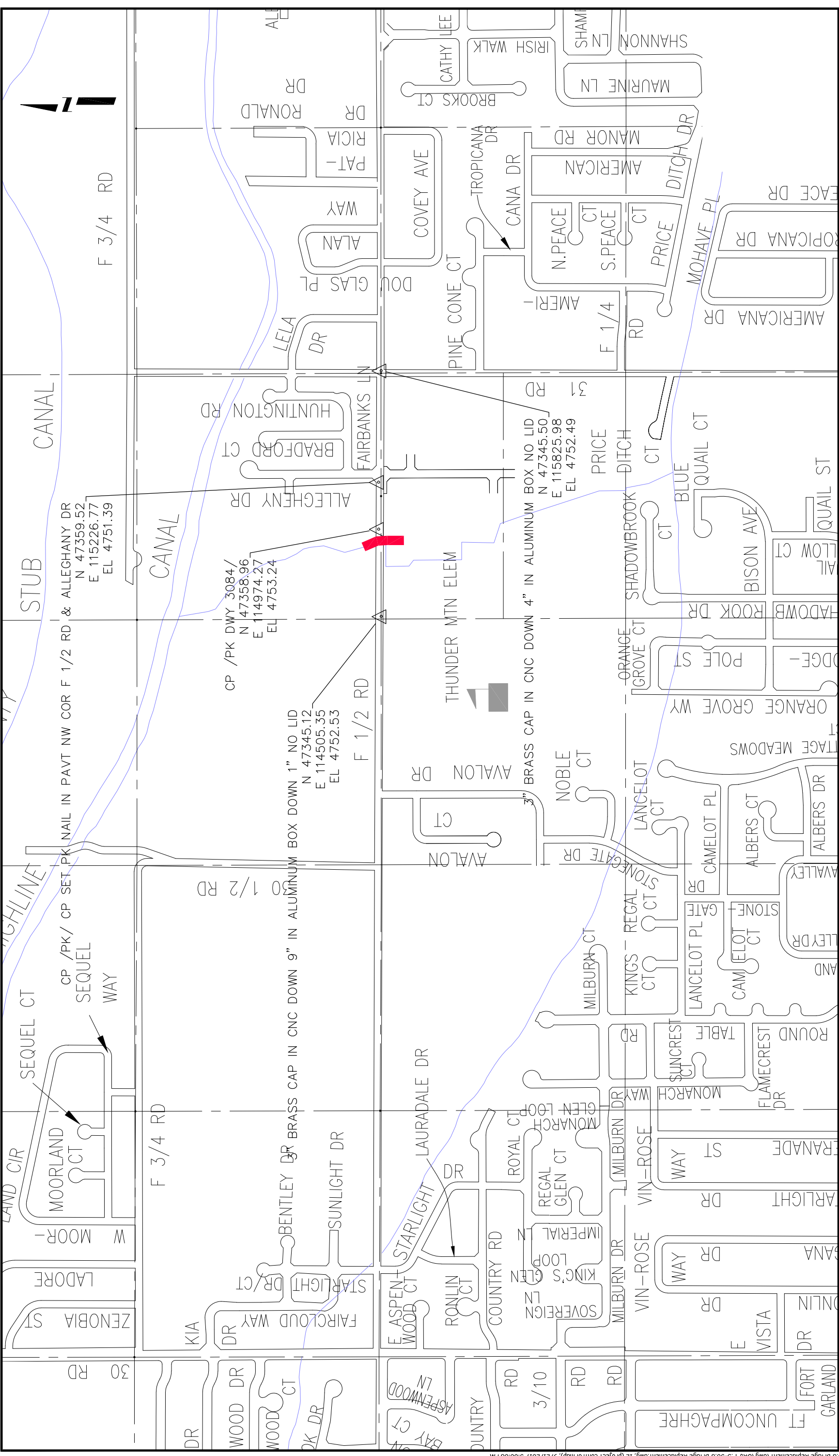
Right of Way Plans
F.5 Rd Baseline Plan
 Project Number: BRO M555-031
 Project Location: F.5 ROAD
 FROM MP 30.82 to MP 30.84
 Project Code: Last Mod. Date: 2017-01-18
 Subset: 5.01 of 5.01
 Sheet No.: 5.01
 Total: 9



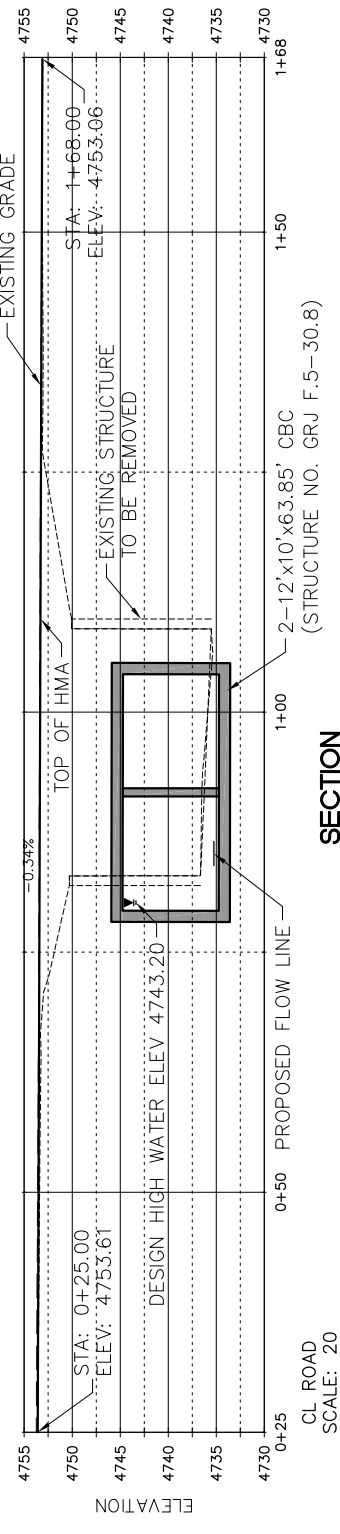
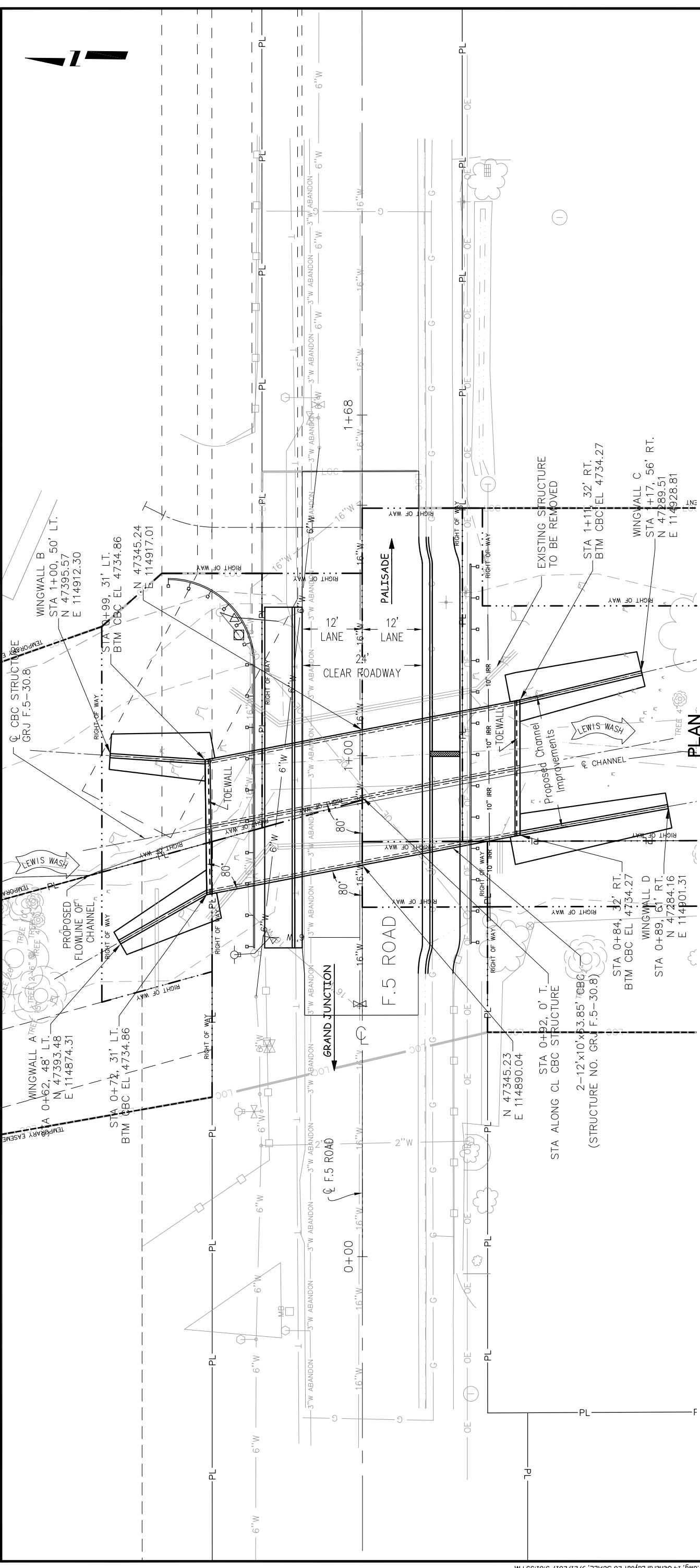
NE 1/4 SE 1/4 Section 4, TWP 1S, RGE 1E, U.P.M.

Alignment: F.5 Rd Baseline

Description	PT Station	Northing	Easting
Begin	0+00	47345.21	114811.88
	20+00	47345.22	114831.88
End	1+49.41	47345.25	114961.30
	1+68	47345.25	114980.08



Print Date: 2017-01-18 File Name: GRJ F.5-30.8 Bridge Replacement.dwg Horiz. Scale: 1:500 Vert. Scale: NA Unit Information: City of GJ Unit Leader Initials: JUV		Sheet Revisions <table border="1"> <thead> <tr> <th>Date:</th> <th>Comments</th> <th>Init.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		Date:	Comments	Init.													As Constructed No Revisions: 0 Revised: 0 Void: 0		PROJECT CONTROL MAP Designer: Justin Vensel Detailer: Hanna M Costanzo Structure Numbers: 20432 Sheet Subsets: 1 of 1		Project No./Code BRO M555-031
Date:	Comments	Init.																					
Sheet Number 12						Sheet Subsets 1 of 1																	



Print Date: 2017-01-18		Project No./Code	
File Name: GRJ F.5-30.8 Bridge Replacement.dwg		GRJ F.5-30.8 GENERAL LAYOUT	
Horiz. Scale: 1:20		Designer: Justin Vensel	
Unit Information: City of GJ Unit Leader Initials: JUV		Detailer: Hanna M Costanzo	
Date:		Structure Numbers	
Comments		Sheet Subsets: 1 of 2	
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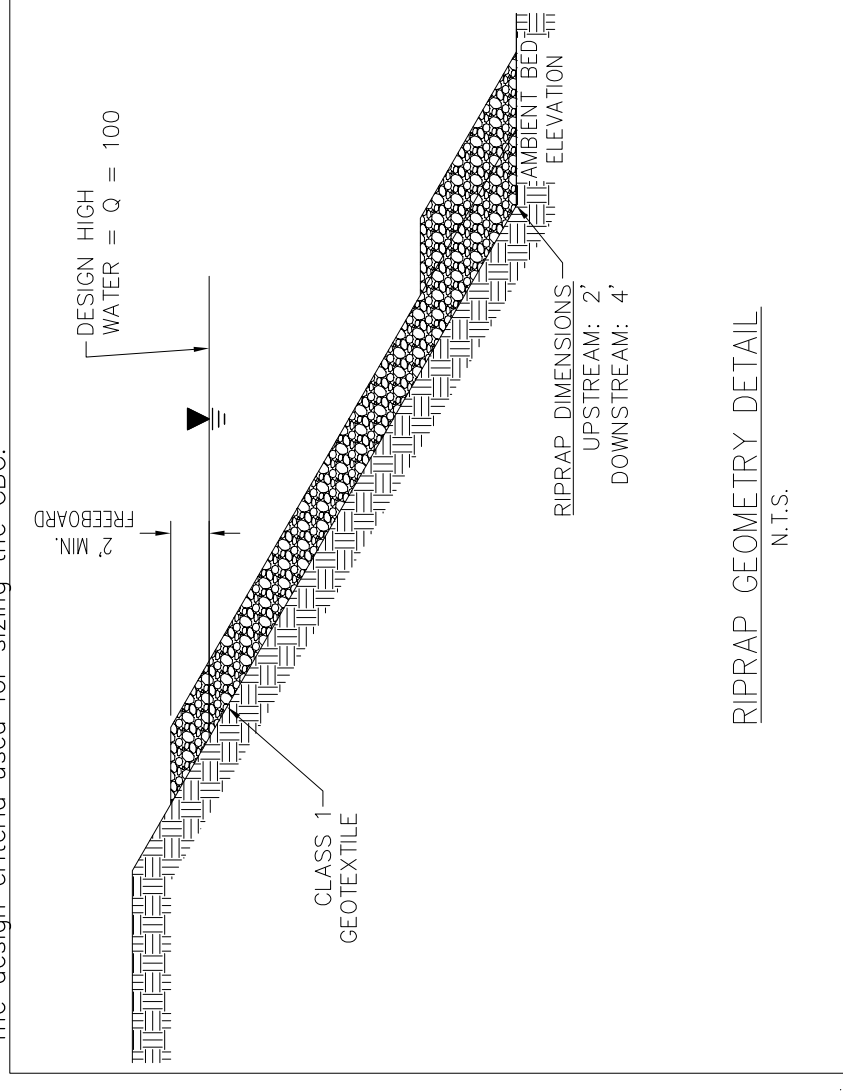


Peak discharge rates for Lewis Wash at the F 1/2 Road crossing are shown in Table 1. The calculated drainage basin at this point of intersect is 6.97 Square Mile.

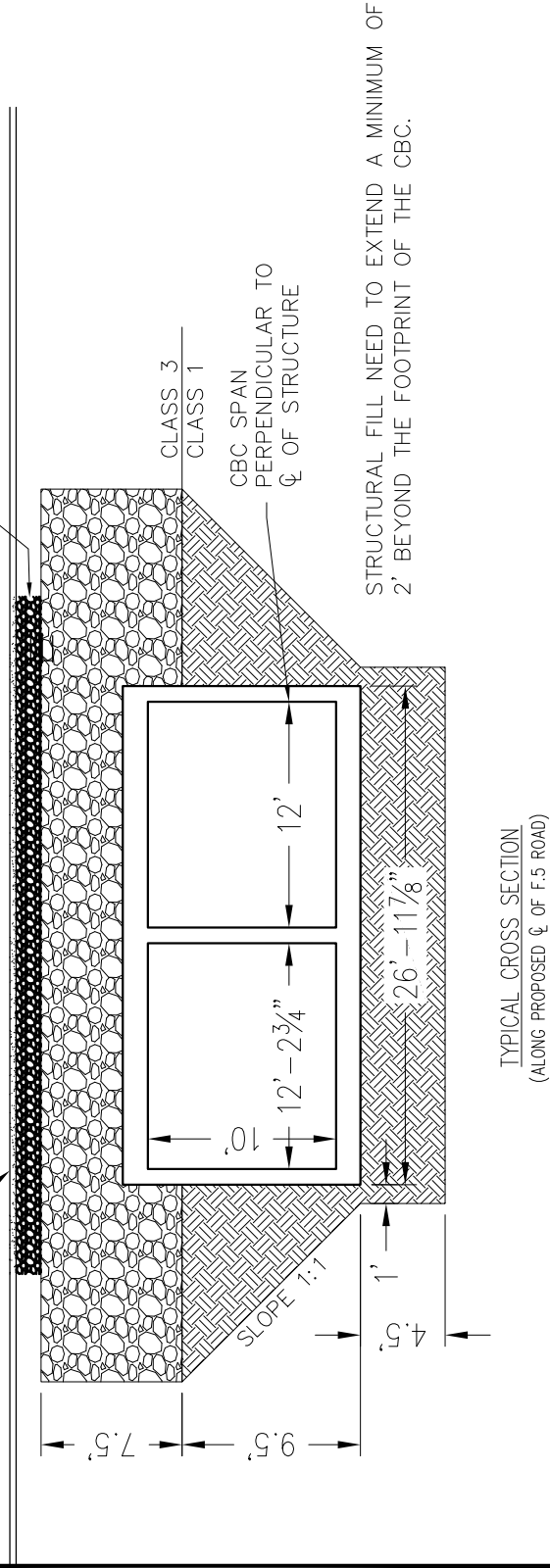
TABLE 1 – Peak Discharge Rate

Recurrence Interval	Peak Flow (CFS)	Depth at Inlet
500 Year	2,726	11.78' (4746.64)
100 Year *	1,794	8.43' (4743.29)
50 Year	1,386	7.22' (4742.08)
10 Year	1,060	6.03' (4740.89)

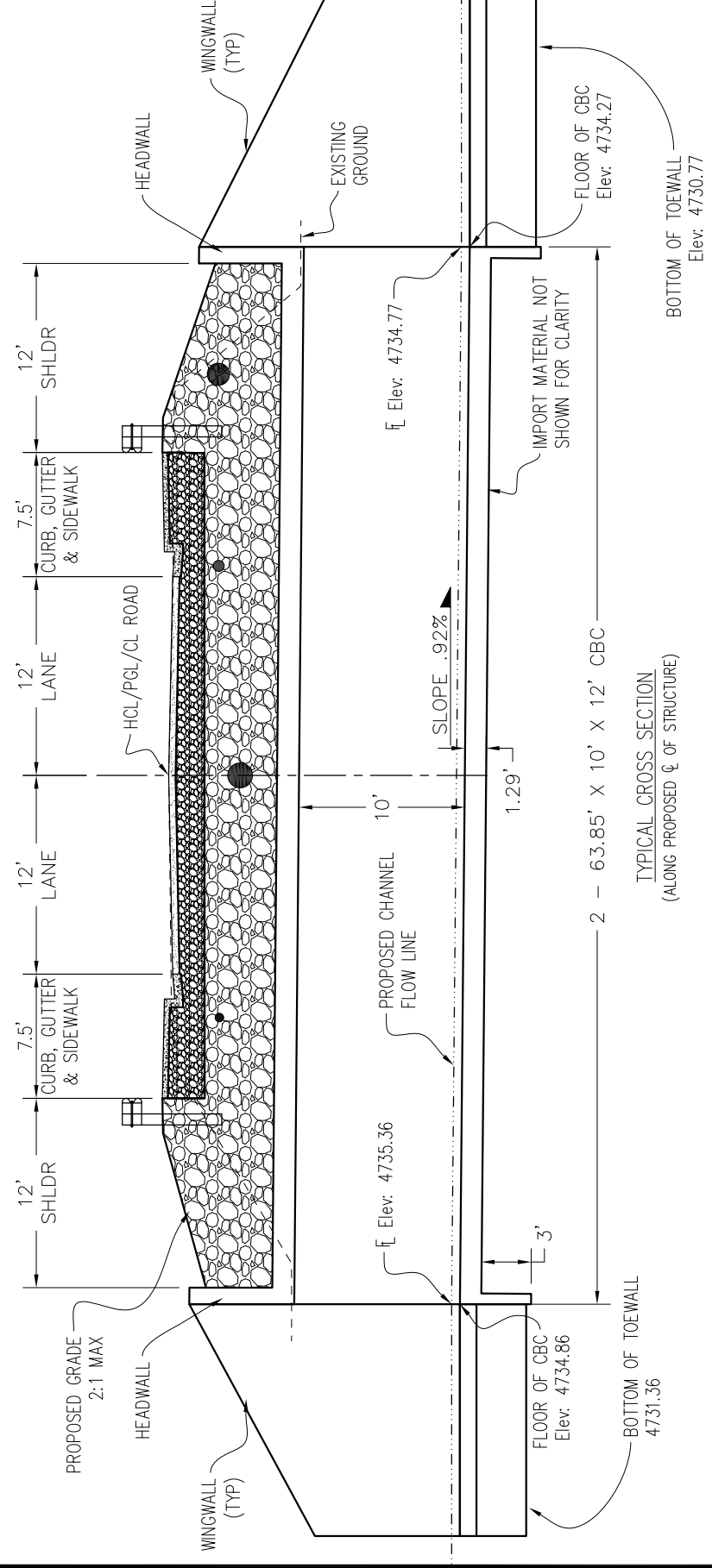
* The design criteria used for sizing the CBC.



6" HMA GRADING SX 75 PG 64-22



STRUCTURAL FILL NEED TO EXTEND A MINIMUM OF 2' BEYOND THE FOOTPRINT OF THE CBC.



Print Date: 2017-01-18

File Name: GRJ F.5-30.8 Bridge Replacement.dwg

Horiz. Scale: N.T.S.

Unit Information: City of GJ Unit Leader Initials: JUV

Project No./Code: BRO M555-031

Structure Numbers: 20432

Sheet Number: 15

As Constructed

No Revisions:

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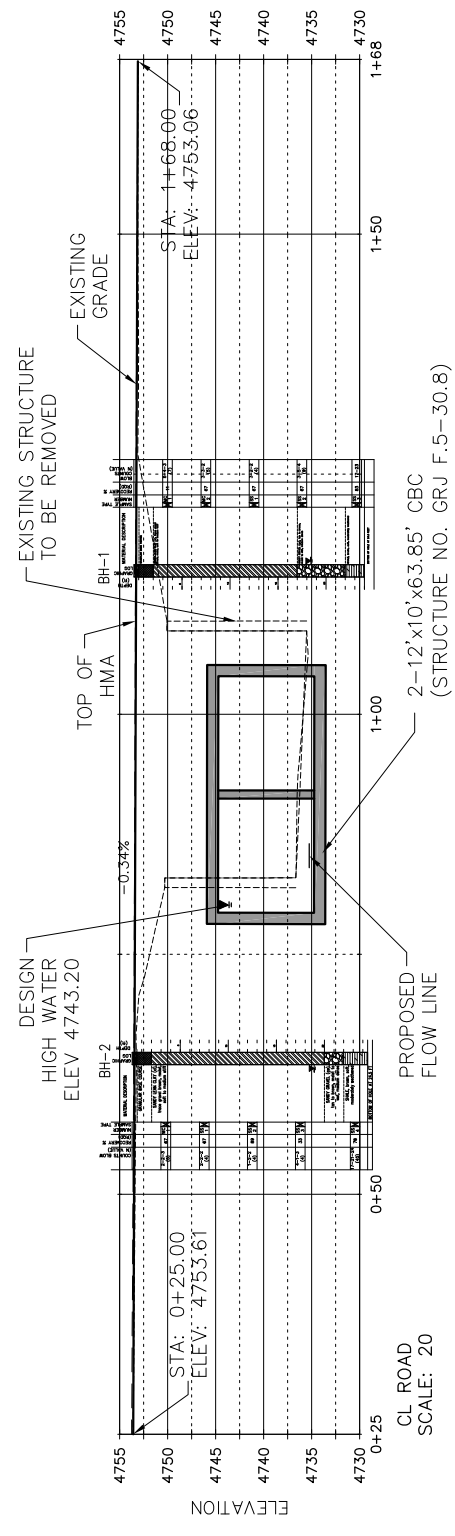
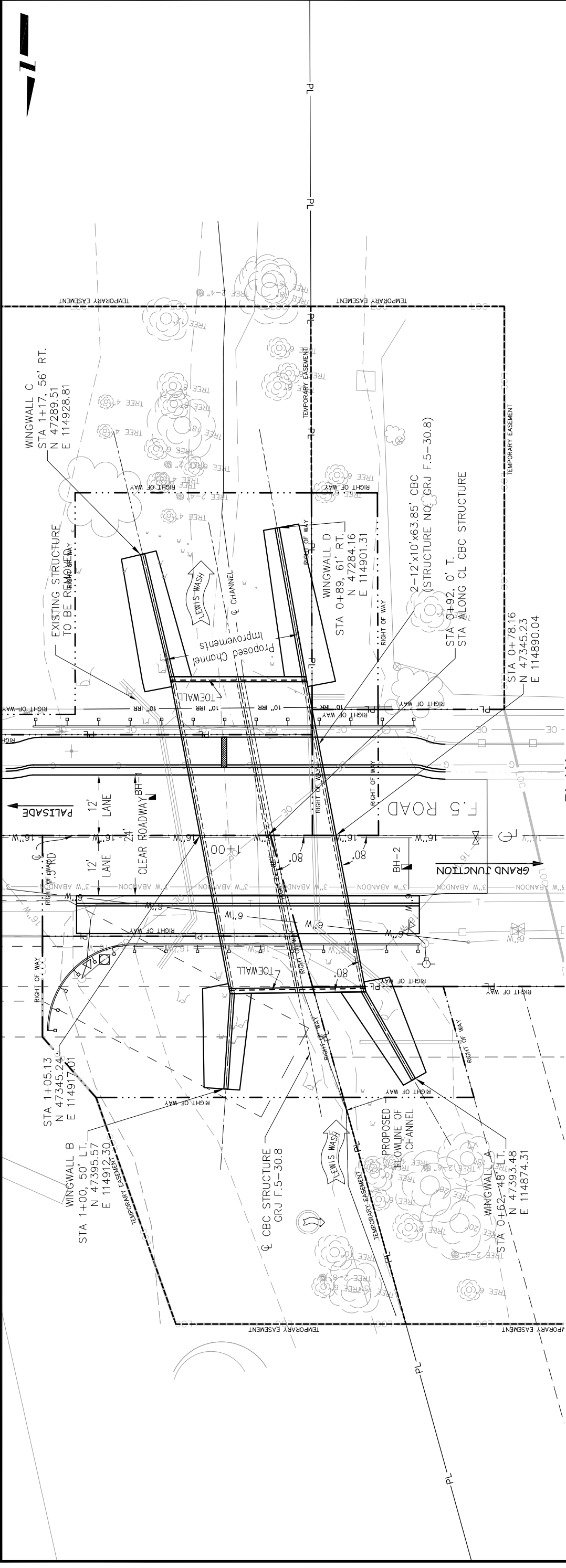
GRJ F.5-30.8 GENERAL LAYOUT

Designer: Justin Vensel

Detailer: Hanna M Costanzo

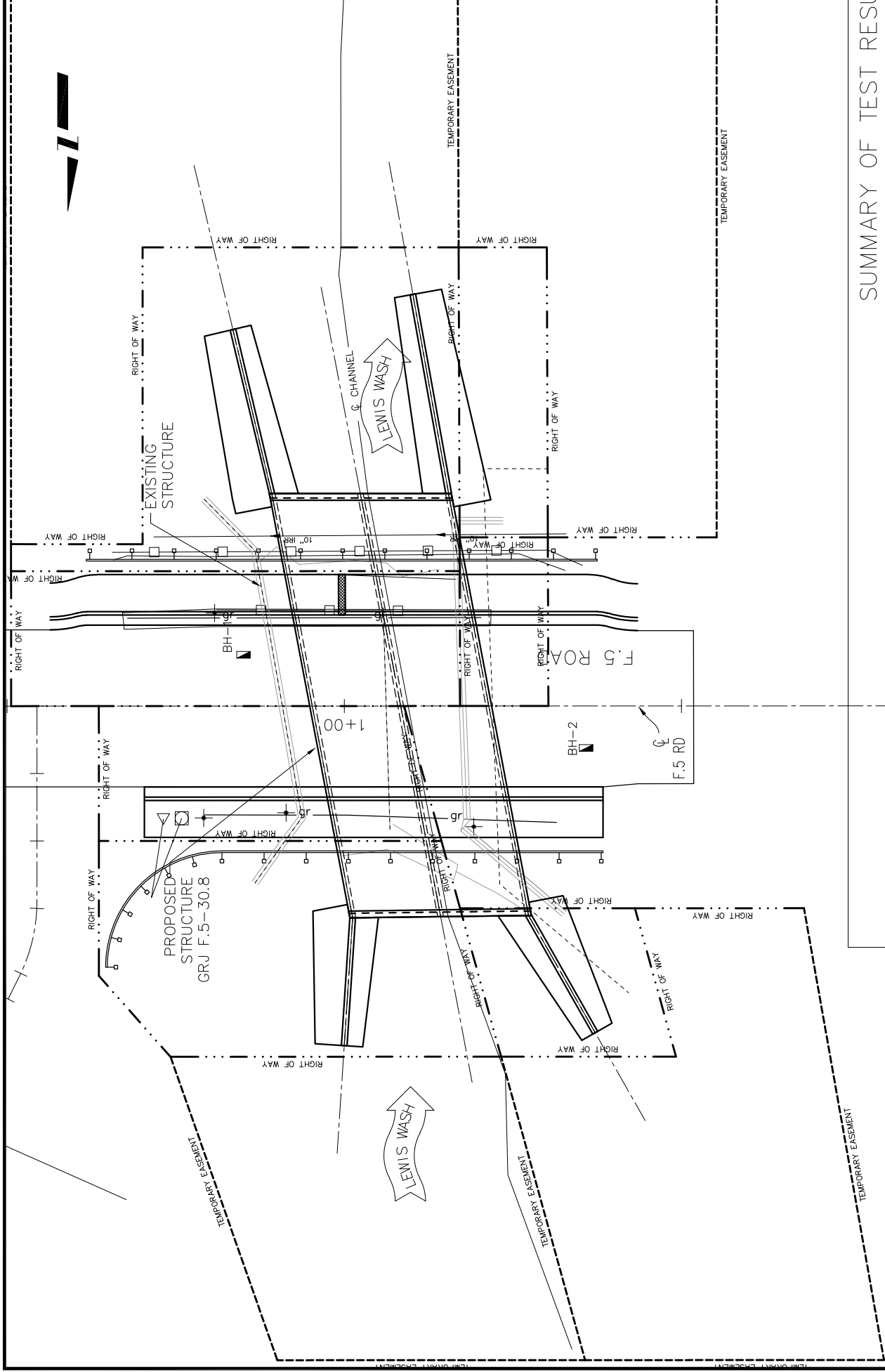
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Date:	Comments



Print Date: 2017-01-18	Project No./Code	GRJ F.5-30.8	Project No./Code	BRO M555-031
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Horiz. Scale: 1:20	No Revisions:		Detailer: Hanna M Costanzo	Sheet Number
Unit Information: City of GJ Unit Leader Initials: JUV	Revised:		Sheet Subset: 1 of 1	16
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	Sheet Revisions			
	Date:	Comments	Init.	





NOTES:

1. THE EXPLORATORY BORINGS WERE DRILLED ON JUNE 8, 2015 WITH A 4" DIAMETER CONTINUOUS FLIGHT POWER AUGER. REFER TO GEOTECHNICAL REPORT PREPARED BY HUDDLESTON-BERRY ENGINEERING & TESTING, LLC, PROJECT #00208-0062, DATED JUNE 30, 2015.
2. THE LOCATIONS OF THE EXPLORATORY BORING WERE MEASURED APPROXIMATELY BY MEASURING FROM REFERENCE POINTS ON THE ROAD SURFACE.
3. THE ELEVATIONS OF THE EXPLORATORY BORINGS WERE OBTAINED BY INTERPOLATION BETWEEN CONTOURS ON THE SITE PLAN PROVIDED.
4. THE EXPLORATORY BORING LOCATIONS AND ELEVATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
5. THE LINES BETWEEN MATERIALS SHOWN IN THE EXPLORATORY BORING LOGS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES AND THE ACTUAL TRANSITIONS MAY BE GRADUAL.
6. GROUND WATER LEVELS SHOWN ON THE LOGS WERE MEASURED AT THE TIME AND UNDER CONDITIONS INDICATED. FLUCTUATIONS IN THE WATER LEVEL MAY OCCUR WITH TIME.

SUMMARY OF TEST RESULTS

TEST HOLE	DEPTH	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)
BH-1	17	SANDY LEAN CLAY (cl), trace gravel brown, moist, soft to medium stiff	MC 1	11	5-4-3 (7)
			MC 2	67	3-3-2 (5)
			SS 1	67	3-2-2 (4)
BH-1	22	SANDY GRAVEL (gw), tan to brown, moist to wet, medium dense	SS 2	67	3-5-4 (9)
BH-1	24	SHALE, brown, soft, moderately weathered	SS 3	83	17-23
			MC 1	67	2-2-3 (5)
			SS 1	67	2-2-2 (4)
			SS 2	89	1-2-2 (4)
BH-2	20	SANDY LEAN CLAY (cl), trace gravel brown, moist, soft to medium stiff	SS 3	33	4-1-3 (4)
BH-2	22	SANDY GRAVEL (gw), tan to brown, moist to wet, medium dense			
BH-2	24.5	SHALE, brown, soft, moderately weathered			
			SS 4	78	17-21-24 (45)

Print Date: 2017-01-18
 File Name: GRJ F.5-30.8 Bridge Replacement.dwg
 Horiz. Scale: 1:20
 Unit Information: City of GJ Unit Leader Initials: JUV

Sheet Revisions

Date:	Comments	Init.

As Constructed

No Revisions:
 Revised:
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GEOTECHNICAL INVESTIGATION

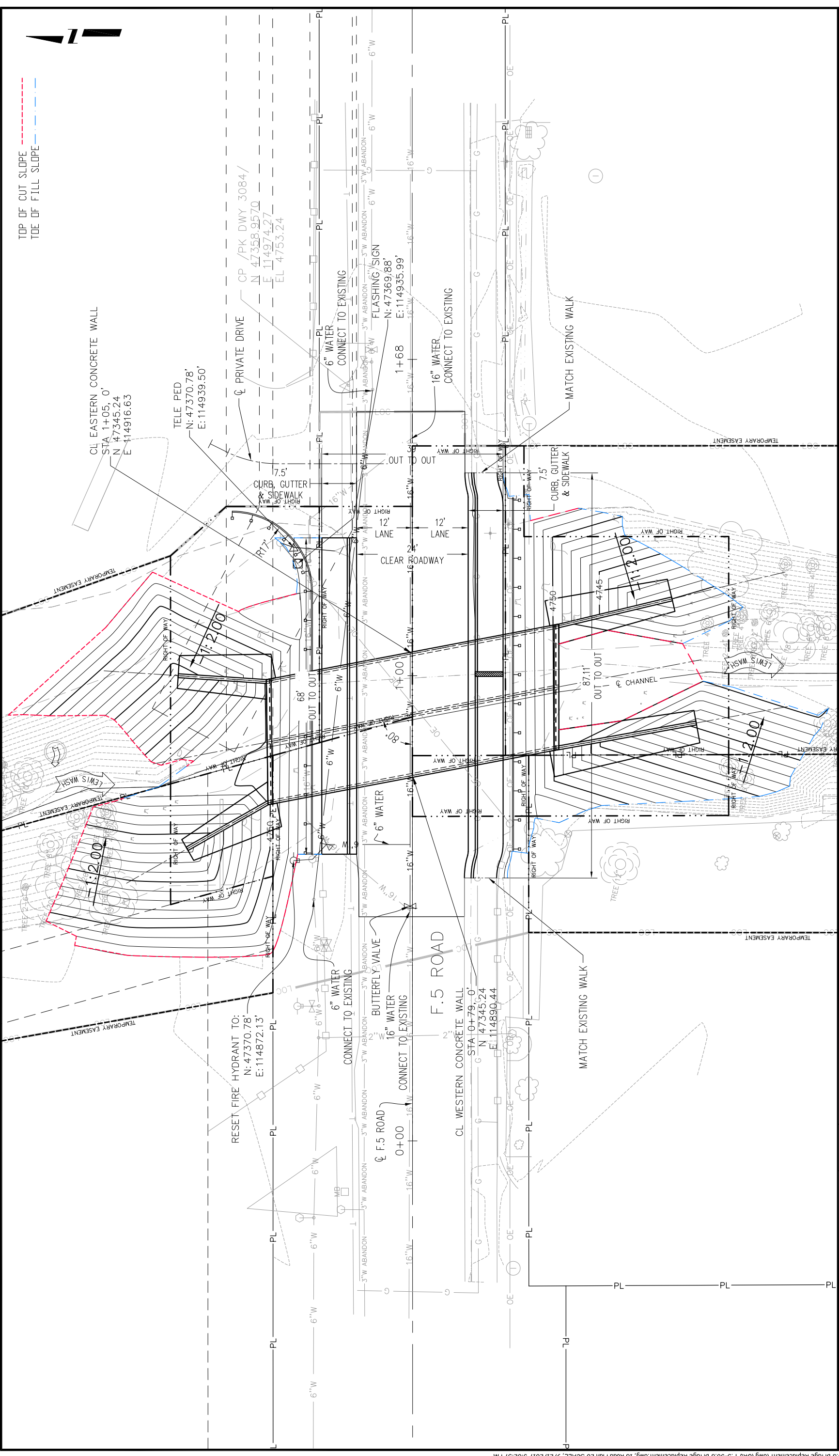
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 Detailer: Hanna M Costanzo

Structure Numbers: 20432

Sheet Subset: 1 of 1
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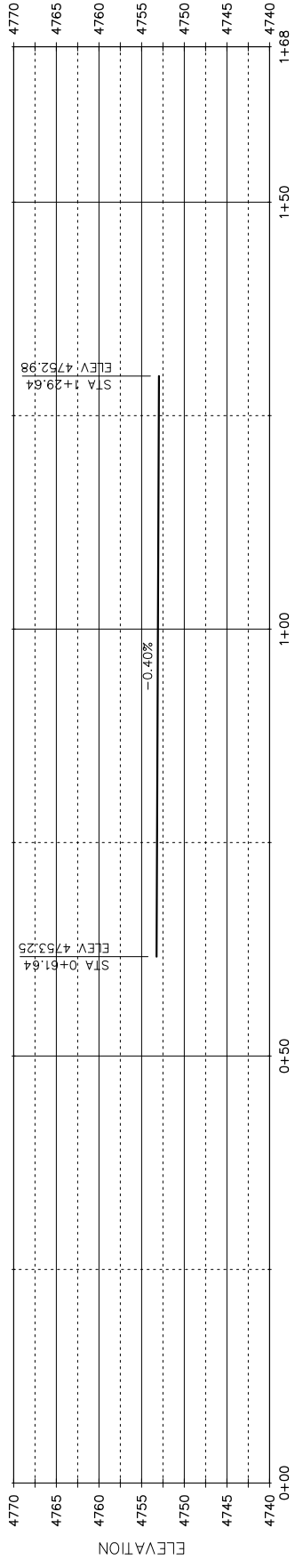
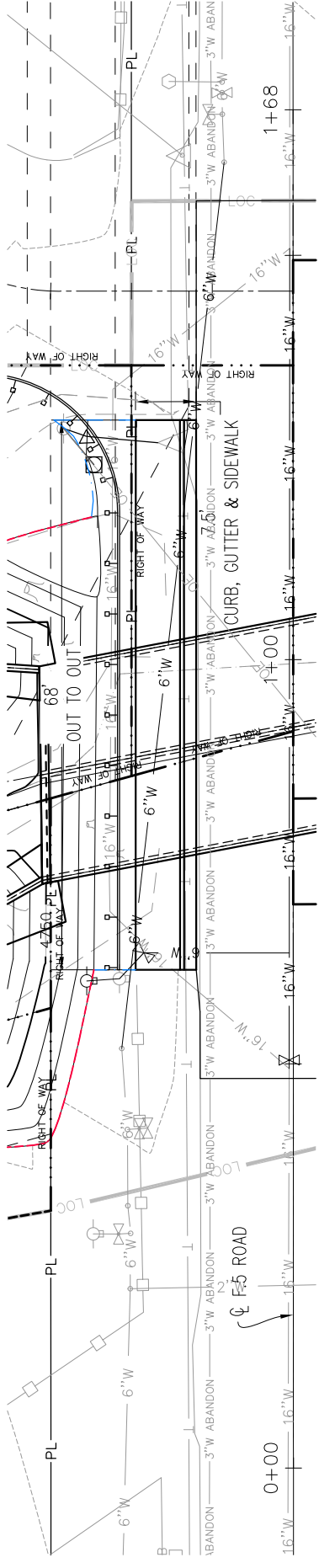
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 BRO M555-031

CITY OF Grand Junction COLORADO

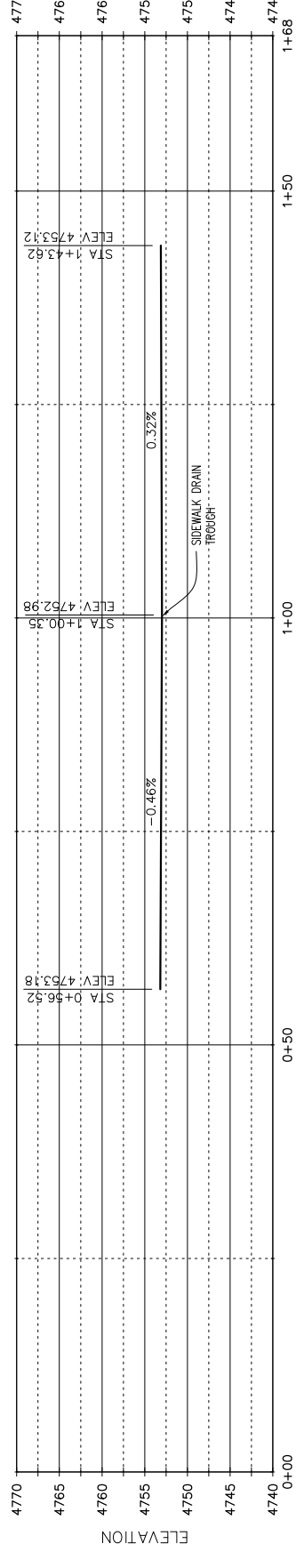
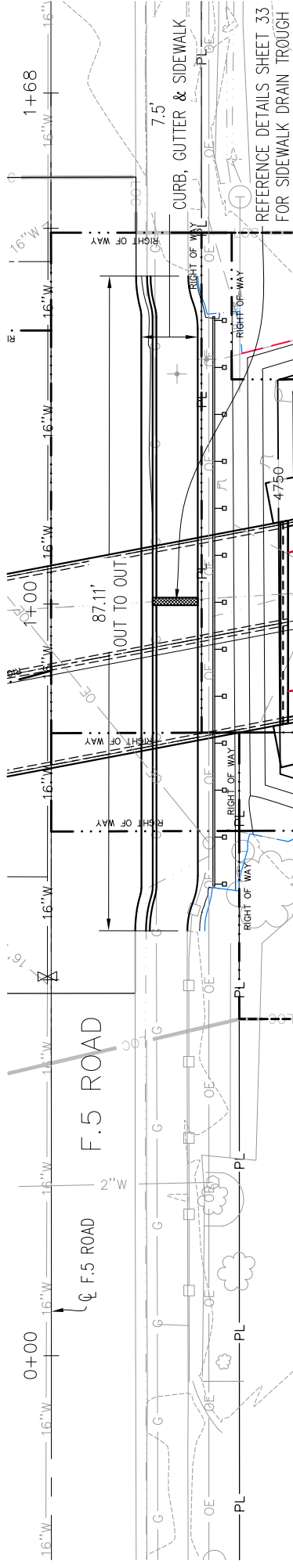


Print Date: 2017-01-18 File Name: GRJ F.5-30.8 Bridge Replacement.dwg Horiz. Scale: 1:20 Unit Information: City of GJ Unit Leader Initials: JUV	Sheet Revisions		As Constructed		F.5 ROAD PLAN		Project No./Code	
	Date:	Comments	No Revisions:	Revised:	Designer: Justin Vensel	Structure Numbers	BRO M555-031	
				Void:	Detailer: Hanna M Costanzo	Subst Sheets:	20432	
								Sheet Number 18





FL NORTH
SCALE: 20



FL SOUTH
SCALE: 20

Print Date: 2017-01-18

File Name: GRJ F.5-30.8 Bridge Replacement.dwg

Unit Information: City of GJ Unit Leader Initials: JUV

Horiz. Scale: 1:20

Date:

Comments

Init.

Sheet Revisions

As Constructed

No Revisions:

Revised:

Void:

F.5 ROAD CURB & GUTTER
FLOW LINE PLAN & PROFILE

Designer: Justin Vensel

Detailer: Hanna M Costanzo

Structure Numbers: ---

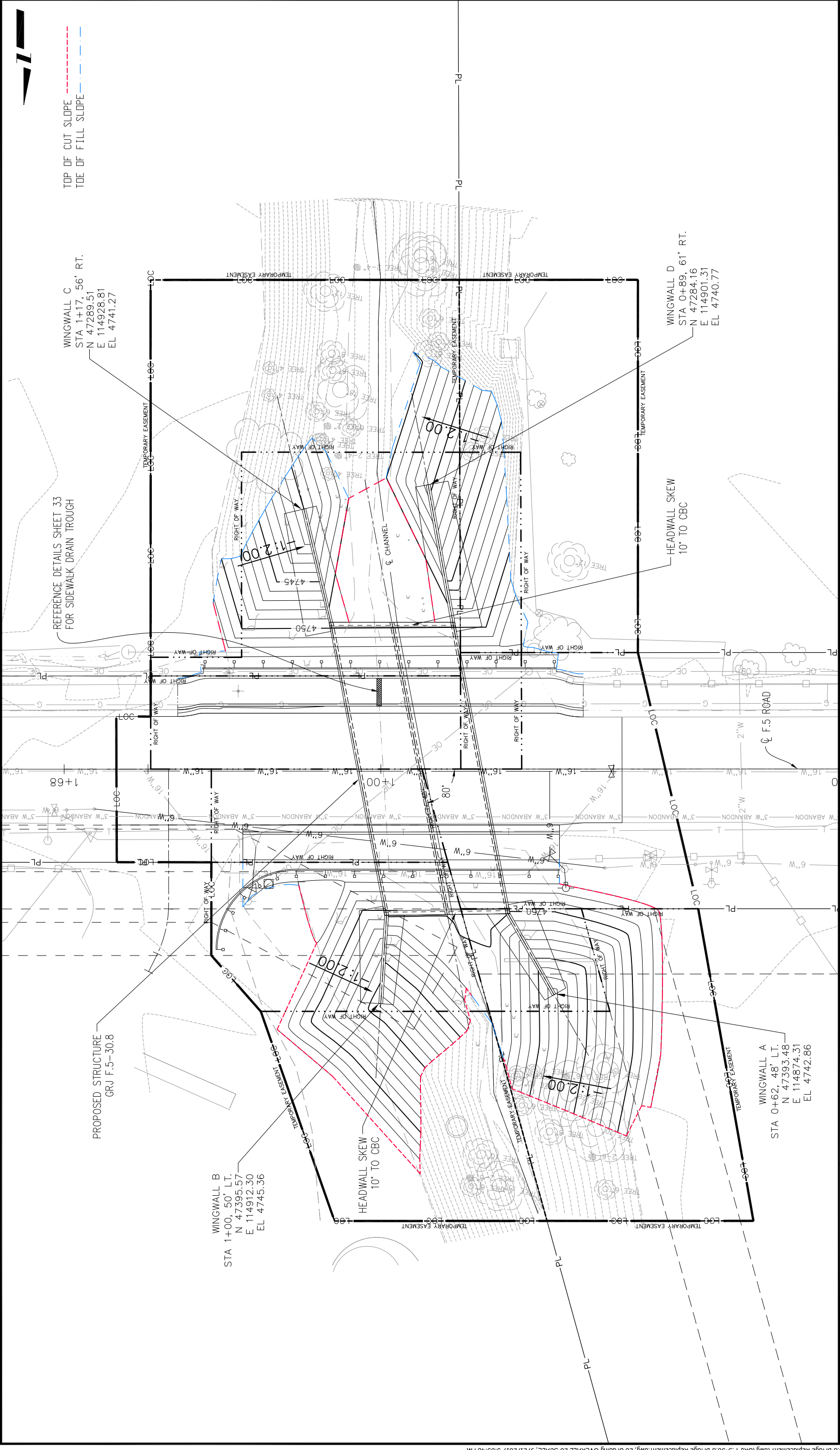
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Project No./Code

BRO M555-031

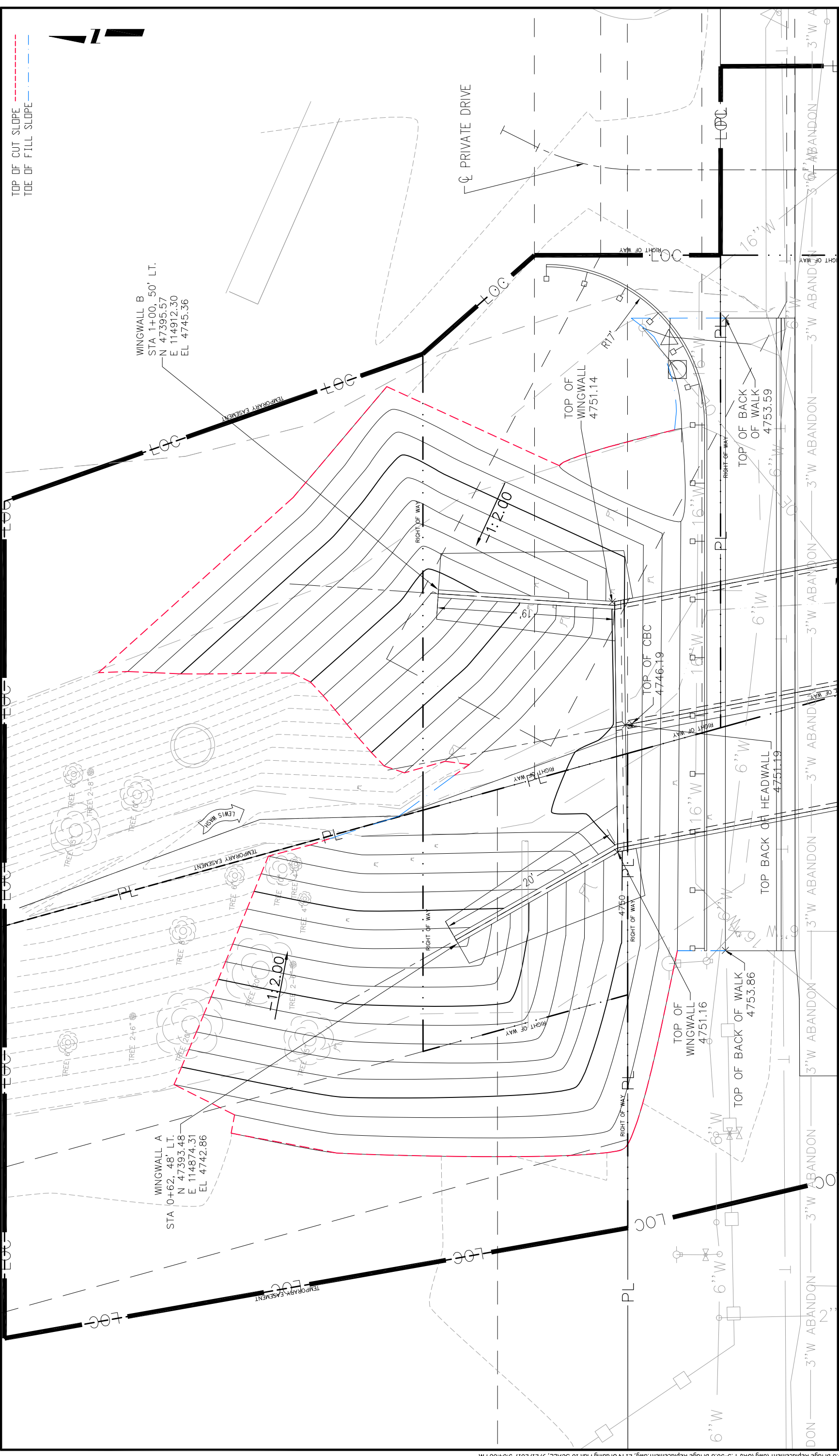
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Print Date: 2017-01-18 File Name: GRJ F.5-30.8 Bridge Replacement.dwg Horiz. Scale: 1:20 Unit Information: City of GJ Unit Leader Initials: JUV		Sheet Revisions <table border="1"> <thead> <tr> <th>Date:</th> <th>Comments</th> <th>Init.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		Date:	Comments	Init.										As Constructed No Revisions: Revised: Void:		Project No./Code BRO M555-031 Structure Numbers 20432 Designer: Justin Vensel Detailer: Hanna M Costanzo Sheet Subsets: 1 of 1 Sheet Number 20	
Date:	Comments	Init.																	

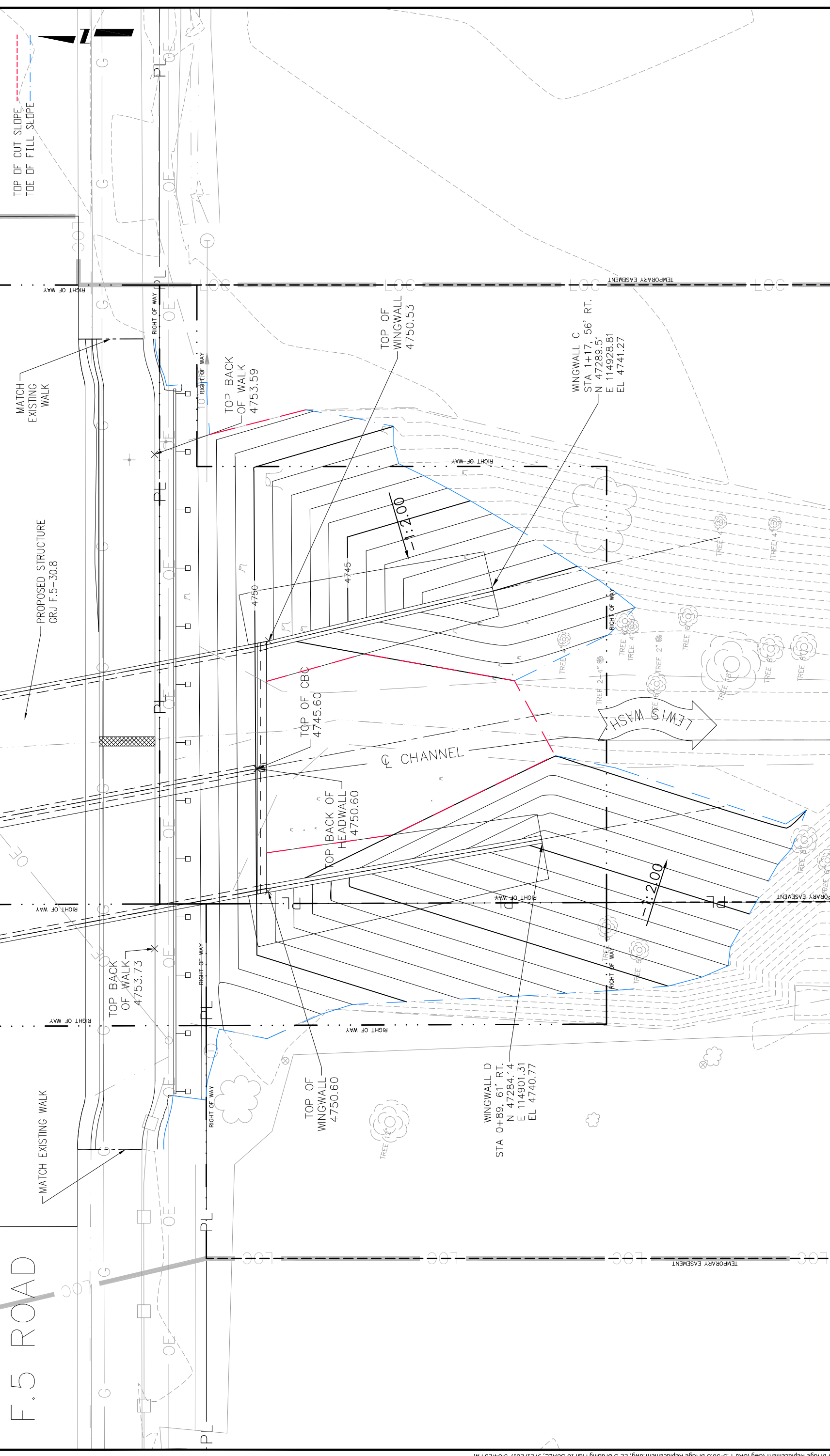




TOP OF CUT SLOPE
 TOE OF FILL SLOPE



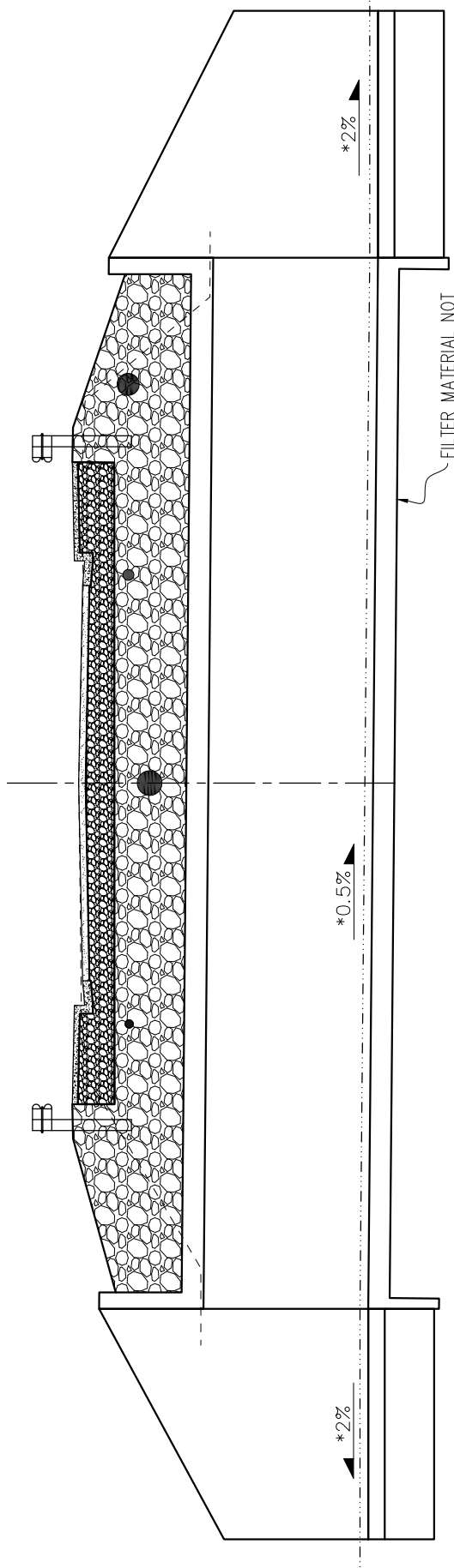
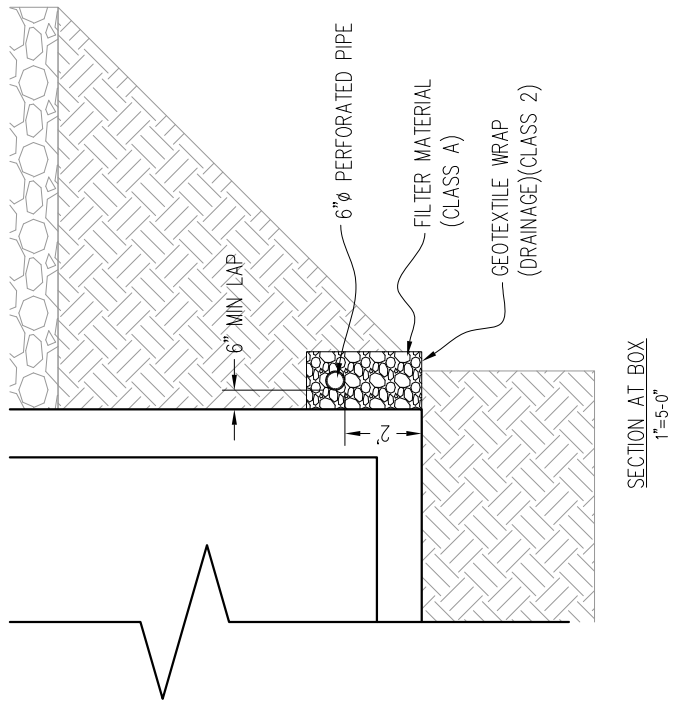
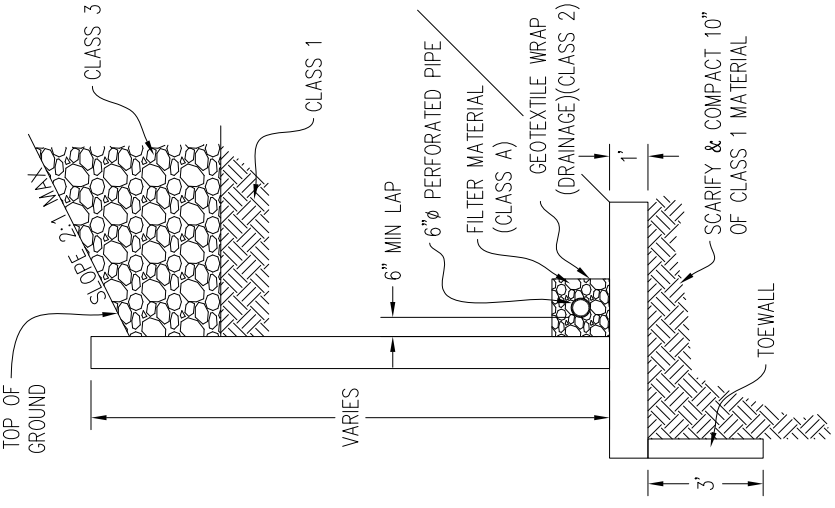
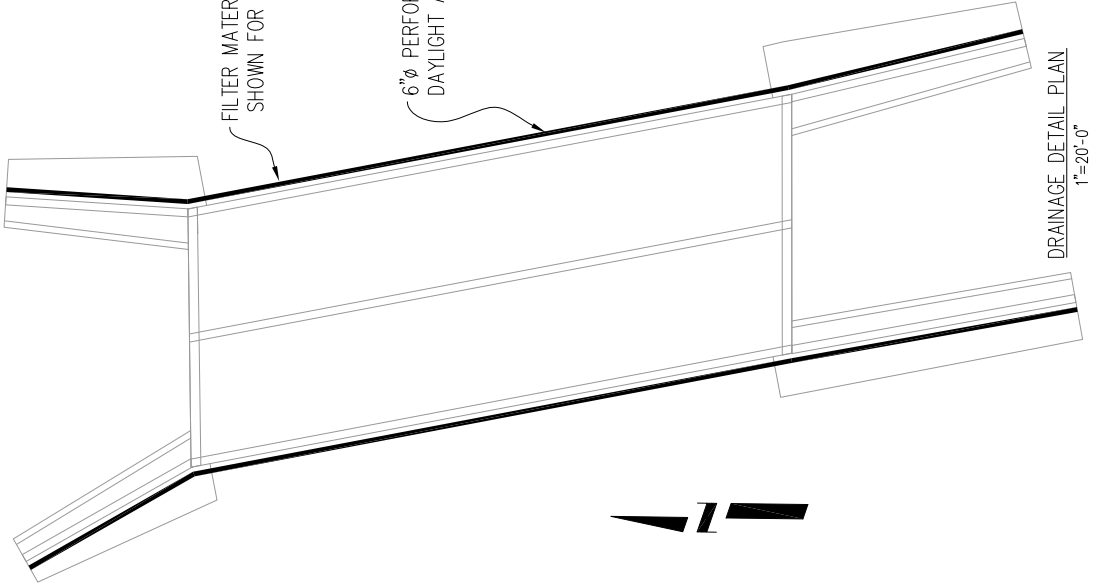
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Date:	Comments	Init.																	
				GRADING PLAN NORTH															



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Date:	Comments	Init.																			



F.5 ROAD



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Date:	Comments	Init.

Sheet Revisions

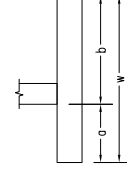
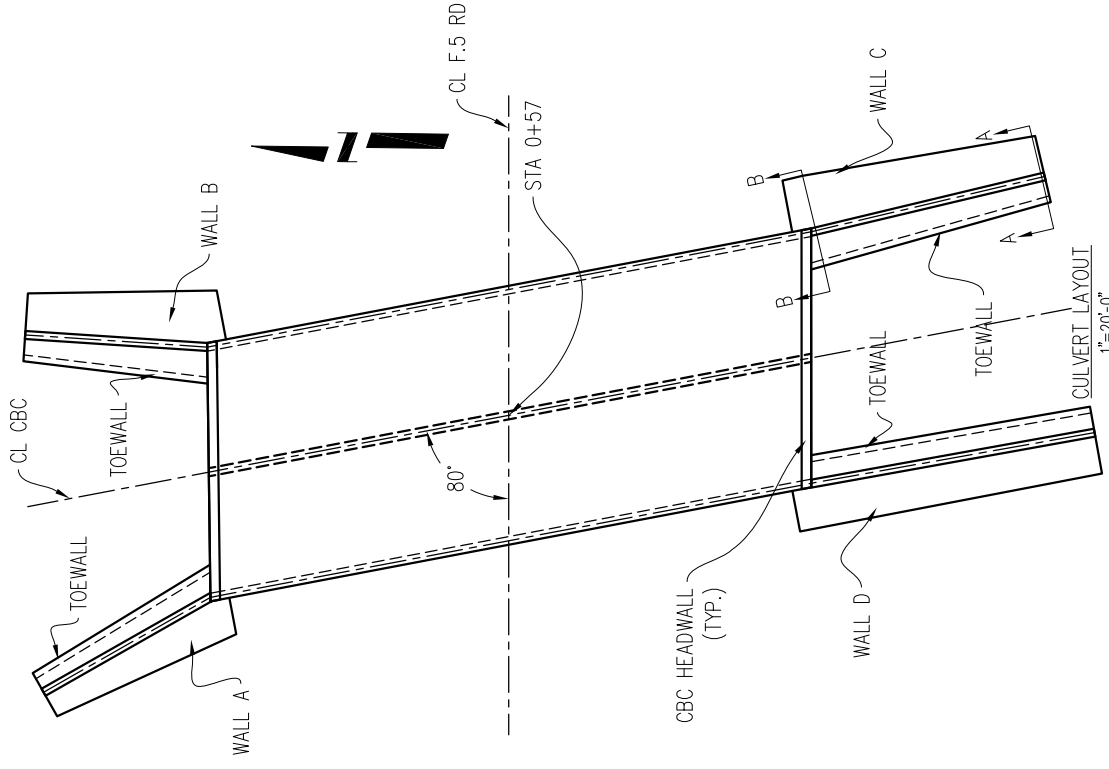
Date:	Comments	Init.

CITY OF
Grand Junction
 COLORADO

As Constructed	No Revisions:	Revised:	Void:

BOX STRUCTURE DETAILS	
Designer: Justin Vensel	Structure Numbers: --
Detailer: Hanna M Costanzo	Numbers: --
Sheet Subset: 1 of 2	Subset Sheets: 1 of 2

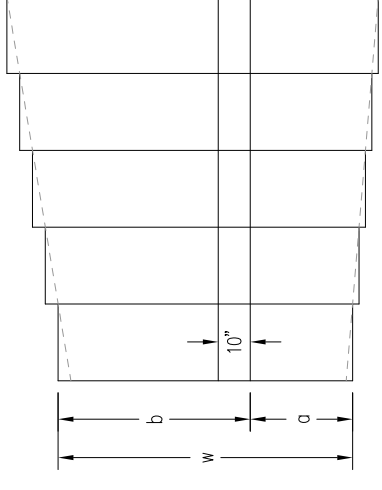
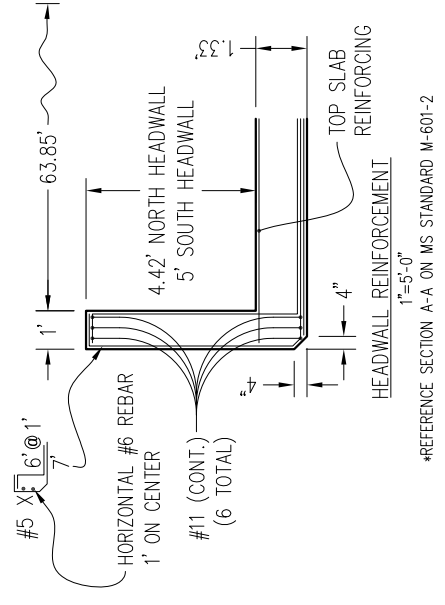
Project No./Code	BRO M555-031
	20432
Sheet Number	23



WINGWALL GEOMETRY						
*REFERENCE M STD M-601-20 FOR REBAR & FOOTER SCHEDULE UP TO 11ft HEIGHT						
**DESIGN WALL HEIGHT, 2/3 HEIGHT A-A TO B-B						
WING	LENGTH	SECTION	HEIGHT	a	b	w
A	20'-0"	A-A	8'-0"	2'-0"	3'-8"	5'-8"
		B-B	16'-0"	3'-4"	6'-4"	9'-8"
B	19'-0"	A-A	10'-6"	2'-4"	4'-4"	6'-8"
		B-B	16'-0"	3'-4"	6'-4"	9'-8"
C	25'-0"	A-A	7'-0"	1'-10"	3'-4"	5'-2"
		B-B	16'-0"	3'-4"	6'-4"	9'-8"
D	30'-0"	A-A	6'-6"	1'-8"	3'-0"	4'-8"
		B-B	16'-0"	3'-4"	6'-4"	9'-8"

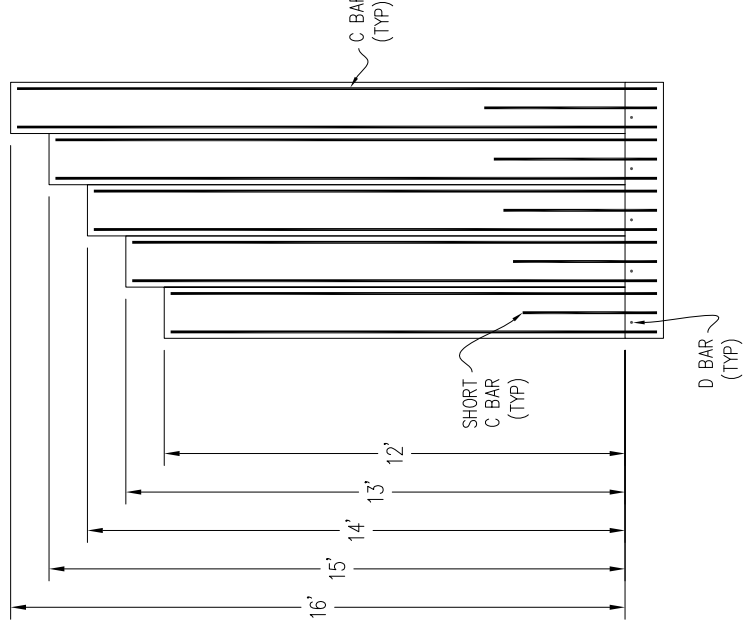
REBAR FOR WINGWALLS			
*REFERENCE M STD M-601-20 FOR WALLS 11' OR LESS			
BAR	DESIGN WALL HEIGHT (ft)	SIZE	O.C.
SHORT C BAR	12	#7	N/A
	13		
	14		
C BAR	12 - 16	#7	6"
	12 - 16	#7	6"

WINGWALL REBAR DETAIL
1"=5'-0"



FOOTER GEOMETRY			
*REFERENCE M STD M-601-20 FOR WALLS 11' OR LESS			
DESIGN WALL HEIGHT	a	b	w
12 ft	2'-8"	5'-0"	7'-8"
13 ft	2'-10"	5'-4"	8'-2"
14 ft	3'-0"	5'-8"	8'-8"
15 ft	3'-2"	6'-0"	9'-2"
16 ft	3'-4"	6'-4"	9'-8"

FOOTER DETAIL
1"=5'-0"



REBAR FOR BOX STRUCTURE			
*REFERENCE M STD M-601-20 FOR WALLS 11' OR LESS			
BAR	DESIGN WALL HEIGHT (ft)	SIZE	O.C.
SHORT C BAR	12	#7	N/A
	13		
	14		
C BAR	12 - 16	#7	6"
	12 - 16	#7	6"

BOX STRUCTURE REBAR DETAIL
1"=5'-0"

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As Constructed
 No Revisions:
 Revised:
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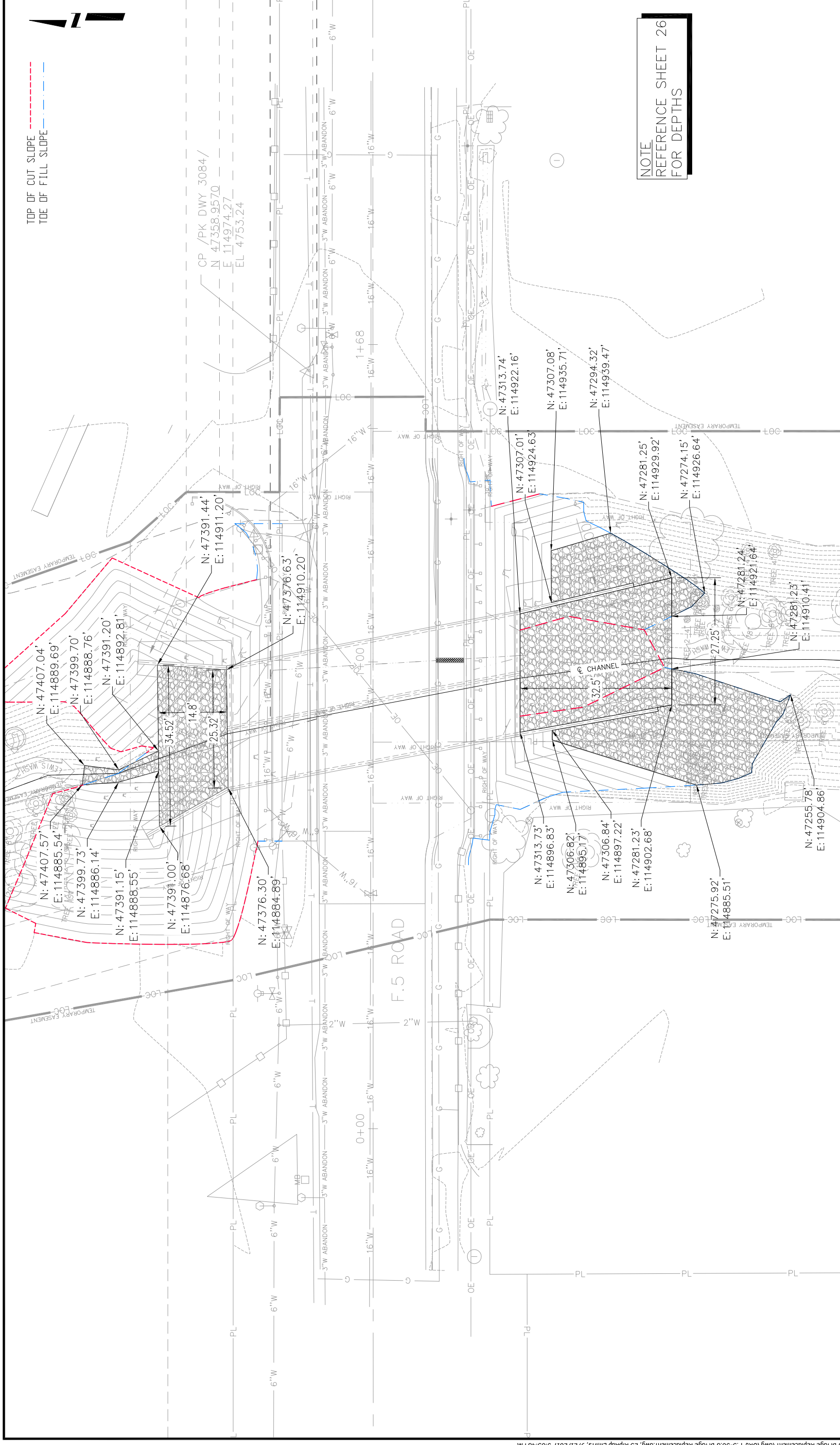
Designer: Justin Vensel
 Detailer: Hanna M Costanzo

Sheet Subset: _____ 2 of 2
 Subset Sheets: _____

Sheet Revisions

Date:	Comments	Init.

TOP OF CUT SLOPE
TOE OF FILL SLOPE



NOTE
REFERENCE SHEET 26
FOR DEPTHS

Print Date: 2017-01-18

File Name: GRJ F.5-30.8 Bridge Replacement.dwg

Horiz. Scale: 1:20

Unit Information: City of GJ Unit Leader Initials: JUV

Sheet Revisions

Date:	Comments	Init.

As Constructed

No Revisions:

Revised:

Void:



RIPRAP LIMITS

Designer: Justin Vensel

Detailer: Hanna M Costanzo

Sheet Subset: 1 of 1

Project No./Code

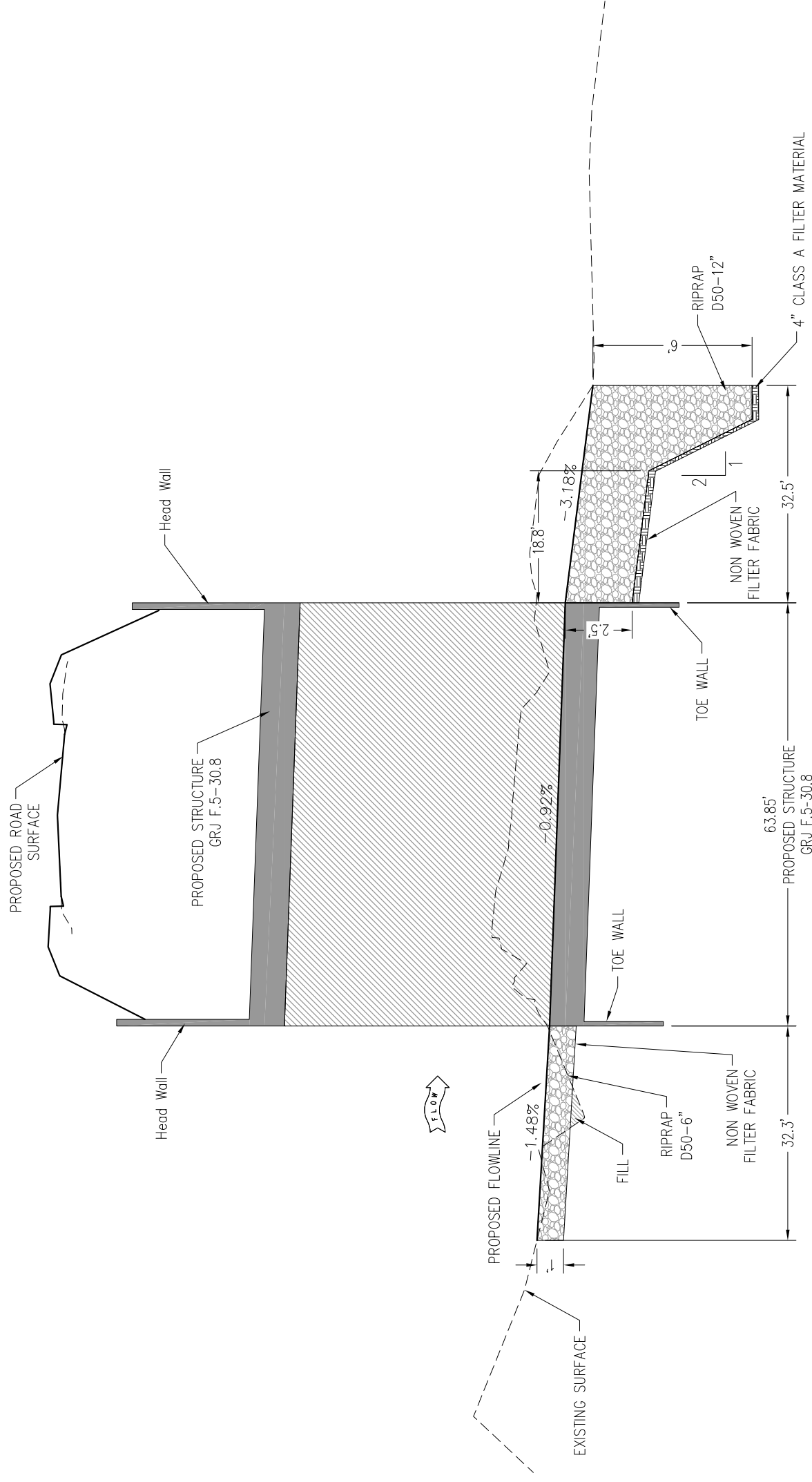
BRO M555-031

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Sheet Number

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SCOUR PAD
TAKEN ALONG CBC ☿

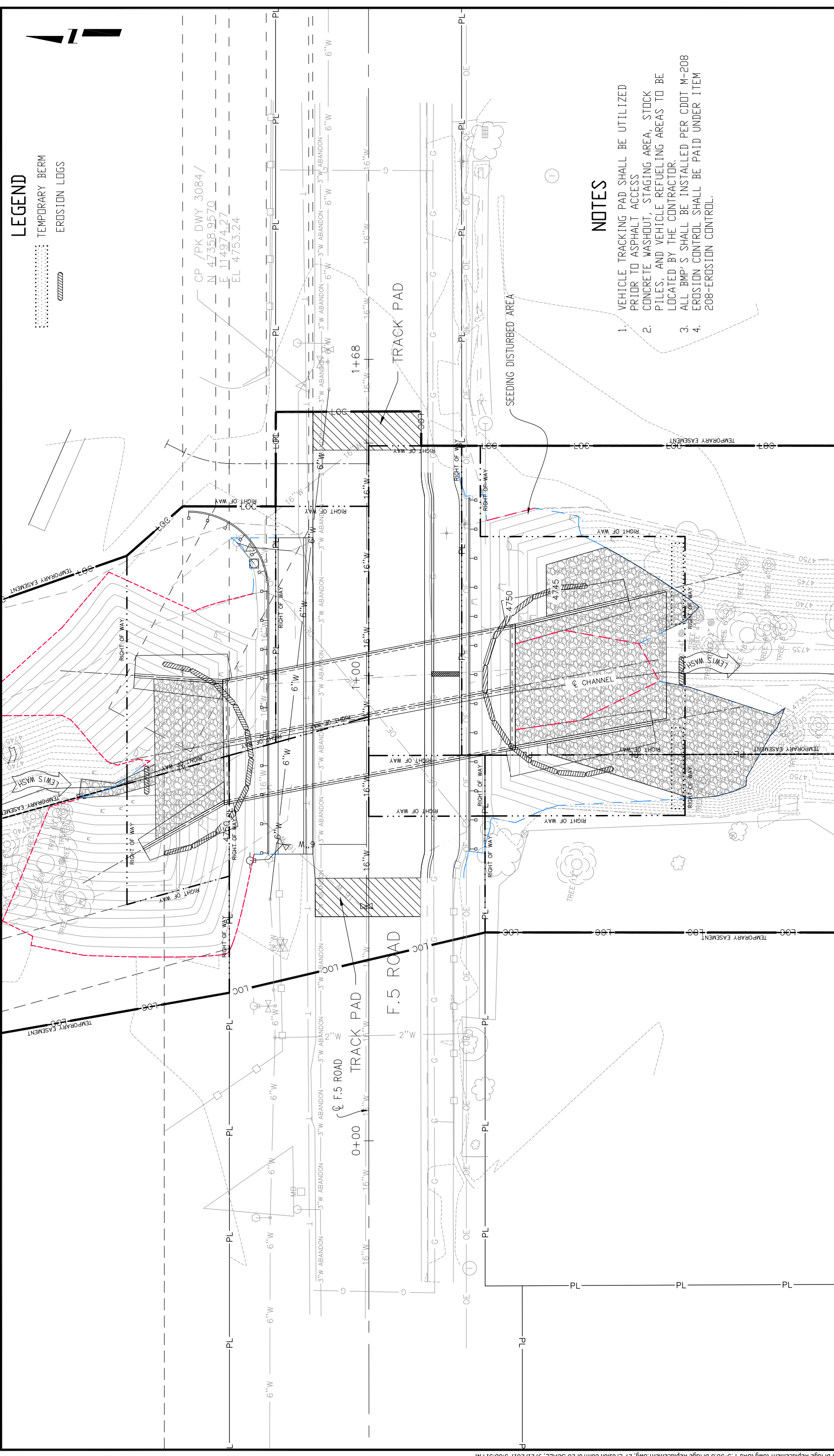
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File Name: GRJ F.5-30.8 Bridge Replacement.dwg		BRO M555-031	
Horiz. Scale: 1:20	Vert. Scale: 1:5	Designer: Justin Vensel	
Unit Information: City of GJ Unit Leader Initials: JUV		Detailer: Hanna M Costanzo	
		Structure Numbers	
		Sheet Subsets: 1 of 1	
		Sheet Number 26	

As Constructed	
No Revisions:	0
Revised:	0
Void:	0



Sheet Revisions	
Date:	Comments

	Init.



LEGEND

- TEMPORARY BERM
- EROSION LOGS

NOTES

1. VEHICLE TRACKING PAD SHALL BE UTILIZED PRIOR TO ASPHALT ACCESS
2. CONCRETE WASHOUT, STAGING AREA, STOCK PILES, AND VEHICLE REFUELING AREAS TO BE LOCATED BY THE CONTRACTOR.
3. ALL BMP'S SHALL BE INSTALLED PER CDOT M-208
4. EROSION CONTROL SHALL BE PAID UNDER ITEM 208-EROSION CONTROL.

Print Date: 2017-01-18 File Name: GRJ F.5-30.8 Bridge Replacement.dwg Horiz. Scale: 1:20 Unit Information: City of GJ Unit Leader Initials: JUV	Sheet Revisions <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Date:</th> <th>Comments</th> <th>Init.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date:	Comments	Init.										As Constructed No Revisions: Revised: Void:	EROSION CONTROL PLAN Designer: Justin Vensel Detailer: Hanna M Costanzo Sheet Subset: 1 of 1	Project No./Code BRO M555-031 Structure Numbers: 20432 Sheet Number: 27
Date:	Comments	Init.														



1. Site Description

- The Contractor shall comply with all CDOT contractual requirements and all requirements associated with the CDSP_SCP on this project. The SWMP administrator shall update to reflect current project site conditions.
- A. Project Site Location: GRJ F-5-30.8 Structure replacement is located in Grand Junction, Mesa County, Colorado. The project lies along F& Road between 30% Road and 31 Road.
 - B. Project Site Description: The current structure is a twin CBC with two openings. Each box structure is approximately 10' in width and 12' in height. The overall structure length is approximately 32 feet. There is an existing cantilevered pedestrian path on the south side of the structure. The new structure will be a twin CBC with 12' wide by 10' high and approximately 64' in overall length. The improvement will incorporate sidewalk along both the north and south side of the roadway. In addition, guardrail will be installed and 2:1 slopes from the flow line to bank will be constructed.
 - C. Proposed Sequencing for Major Construction Activities:
 - Phase 1 Consists of the removal of the existing structure.
 - Phase 2 consists of the excavation to subgrade and the assembly of the CBC and wing walls.
 - Phase 3 consists of the backfill of the CBC and wing walls along with the installation of both the dry utilities and the live utilities to the top of the class 3 fill material.
 - Phase 4 consists of the construction on the curb, gutter and sidewalk along with the installation of the asphalt and the guardrail.
 - Erosion Control Measures shall be implemented as follows:
 - > Setup staging area and install all initial erosion control Best Management Practices (BMP'S) as shown on the plans or as deemed necessary by the contractor. This will include vehicle tracking pads, concrete washout, and erosion logs. All initial BMP's and perimeter control shall be in place prior to clearing and grubbing or major construction activities.
 - > As the contractor proceeds with each phase of the project, interim BMP's will be installed prior to commencing each new phase. Previously placed BMP's will be maintained as needed.
 - > Final stabilization measures shall be implemented as soon as possible following grading operations if the project conditions allow, and shall consist of seeding as shown on the plans.
 - > After acceptance of final stabilization, all initial and interim BMP's will be removed unless otherwise directed by the Engineer.
 - D. Acres of Disturbance:
 - (1) Total area of construction site (LOC (Permitted Area)): X.X acres.
 - (2) Total area of proposed disturbance (LDA): X.X acres
 - (3) Total area of seeding: 0.1 acres
 - (4) Total area of impervious area: X.X acres
 - E. Potential Pollutants Sources: See First Construction Activities under Potential Sources. The SWMP Administrator shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.
 - F. Receiving Waters: The location of the construction activities is located in Lewis Wash and is classified as a receiving water. The ultimate receiving water is the Colorado River.
 - G. Non-Stormwater Discharge:

Allowable:

 - (1) Ground water and Stormwater dewatering: The contractor shall protect the work areas and facilities from water at all times. Areas and facilities subjected to flooding, regardless of the source water, shall be promptly dewater and restored at no cost to the owner. This shall include removal of any debris caused by flooding. Any dewatering shall be done in accordance with Subsection 107.25.

Contaminated:

 - (2) If discharges do not meet the above criteria, a separate CDPS permit shall be obtained by the contractor from the CDPHE.

2. Site Map Components:

- Pre-construction: All site map components, if applicable are shown on the SWMP Maps.
- A. Project construction potential site boundaries.
 - B. All areas of ground disturbance.
 - C. Areas of cut and fill.
 - D. Location of all non-structural BMPs/Control measures as applicable in the SWMP.
 - E. Springs, streams, wetlands and other surface water.
 - F. Protection of trees, shrubs, cultural resources and mature vegetation
 - G. Areas used for storing and stockpiling of materials and staging areas.

3. SWMP Administrators:

- A. SWMP Administrator for Design:

Name/Title	Contact Information
Justin J. Vensel, PE	City of Grand Junction, justinv@city.org, 970-256-4017

- B. SWMP Administrator for Construction: (As defined in subsection 208)

Name/Title	Contact Information	Certification #	Start Date	Engineer Approval

- C. Erosion Control Inspector: (as defined in subsection 208)

Name/Title	Contact Information	Certification #	Start Date	Engineer Approval

4. Stormwater Management controls first construction activities

The contractor shall perform the following:

- A. Potential Pollutant Sources

Evaluate, identify, locate and describe all potential sources of pollutants at the site in accordance with subsection 107.25, CDPS-SCP and place in the SWMP notebook.
- B. Offsite Drainage (Run on Water)

Describe and record BMPs/Control measures on the SWMP site map that have been implemented to address offsite run-on water in accordance with subsection 208.03.
- C. Vehicle Tracking Pad

MBPs/Control measures shall be implemented in accordance with subsection 208.04.
- D. Perimeter Control

Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the Stormwater drainage system or discharging to state waters.
- 5. During Construction

Responsibilities of the SWMP Administrator during construction
 The SWMP should be considered a "living document" that is continuously reviewed and modified.
 During construction, the following items shall be added, updated or amended as needed by the SWMP Administrator in accordance with Section 208.
 During construction, indicate how items that have not been addressed during design are being handled in construction.
 A. Stockpile Management: Shall be in accordance with subsection 107.25 and 208.07
 B. Concrete Washout: Concrete wash out water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.
 C. Saw Cutting: Shall be done in accordance with subsection 107.25, 208.04 and 208.05.
 D. Street Cleaning: Shall be done in accordance with subsection 208.04.

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As Constructed

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Revised:

Void:

STORM WATER MANAGEMENT PLAN NOTES

Designer: Justin Vensel
 Detailer: Hanna M Costanzo

Structure Numbers

Sheet Subset: 1 of 4

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6. Street Cleaning: Shall be done in accordance with subsection 208.04. Inspections: Inspections shall be done in accordance with subsection 208.03 (c).
7. BMP/Control Measure Maintenance
Maintenance shall be in accordance with subsection 208.04 (f).
8. Record Keeping
Records shall be kept in accordance with subsection 208.03 (d)
9. Interim and Final Stabilization
A. Seeding Plan
Soil preparation, soil conditioning or topsoil, seeding(native), mulching and mulch tackifier will be required for an estimated 0.1 acres of disturbed area.

Description	% of Mix	PLS rate per species per acre
Crested Wheatgrass, Ephraim	20%	1.25
Western Wheatgrass, Arriba	20%	3.25
Smooth Brome, Lincoln	15%	2.00
Alkali Sacaton	10%	0.25
Viva Galleta Grass	10%	1.25
Orchard grass, Paiute	10%	0.50
Perennial Ryegrass, Tetraploid	15%	1.25
Oats or Winter Wheat	add in	3.00
TOTAL	100%	12.75

- B. Seeding Application
Area to be seed shall be hydroseeded and double the rate of conventional per subsection 212.
- C. Special Requirements
Due to steep slopes (2:1), hydroseeding will be allowed on this project for permanent stabilization. Hydroseeding rate shall be at double the seed rate. Hydroseed shall be applied in two applications; the first application is a slurry which contains seed organic amendment and fertilizer. The second application of slurry is a mulch pacifier. Both slurry applications shall be applied from top of slope downward, in 50' vertical lifts unless otherwise approved.
- D. Reseeding Operations/Corrective Stabilization
Prior to Final acceptance
(1) All seeded areas shall be reviewed during the 14 day inspections by the SWMP Administrator and/or Erosion Control Inspector for bare soils caused by surface or wind erosion. Bare areas caused by surface erosion shall be re-graded, and seeded with no additional cost to the project
(2) The Contractor shall maintain seeding, mow to control weeds or apply herbicide to control weeds in the seeded areas until partial acceptance of the storm construction work.
10. Prior to Project Final Acceptance
A. Partial acceptance shall be in accordance with subsection 107.25 (d), 208.10 and 214.04 at the partial acceptance of the project, it shall be determined by the SWMP administrator and the Engineer which temporary BMPs shall remain until 70% revegetation is established.
B. At the end of the project, all ditch checks shall either consist of temporary erosion logs or riprap.

11. Narratives

- A. Additional BMPs/Control Measures and Narratives
BMP/Control measures details and narratives not covered by the SWMP or standard Plan M-208, M-216 shall be added to the SWMP notebook by the SWMP Administrator.
BMP Matrix:
(1) M-Standards have been included along with standard BMP narratives. If a non-standard BMP will be used or the strand narrative does not apply, the Administrator shall write a non-standard BMP narrative, place an "X" in the column and complete a non-standard BMP section and narrative for SWMP Notebook.
(2) The SWMP Administrator shall place an "X" in the column in the Use on Site when the BMP/Control measure has been installed.
(3) Place an "X" in the column BMP/Control Measure to be located by the SWMP Administrator if the SWMP Administrator shall locate the BMP/ Control Measure during construction.
(4) Place an "X" in the column Installation BMP/ Control Measure pre-Construction if the BMP/ Control Measure is to be installed prior to construction Activity.
12. Tabulation of Stormwater Quantities
A. See SAQ for tabulation. In the event an item required for BMP/Control Measures is not listed in the SAQ it shall be considered incidental to the project and included in the unit costs associated with the project.
13. Biological Impacts
Environmental Impacts
(1) Wetlands Impact: YES
(2) Stream Impacts: NO
(3) Threatened and Endangered Species; No Anticipated Impacts
(4) A Nation Wide 3 US Army Corps has been obtained for this project.
14. Notes

- A. Stormwater Management Plan (SWMP) information shown is based upon existing conditions. The Contactor is responsible for making determination as to the accuracy of BMP types and locations shown. The contracted Erosion Control Supervisor shall coordinate with the superintendent and engineer as to the appropriate BMPs and their locations and shall make the updates to the SWMP sheets as soon as the changes are known.
B. Contractor shall us construction fencing and barriers around the limits of work as necessary to keep pedestrians out of the work zone and construction vehicles within the work area as shown on the plans.
C. Contractor shall sweep up sawcut slurry after saw cutting operations to keep it from being transported to an existing drainage system.
D. Vehicle tracking pads and concrete washout area locations shall be determined by the Contractor and drawn on the plans.
E. Road shall be swept prior to striping to minimize the transport of sediment.

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STORM WATER MANAGEMENT PLAN NOTES

Designer: Justin Vensel
Detailer: Hanna M Costanzo
Sheet Subset: -----

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STRUCTURAL BMPs/Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:

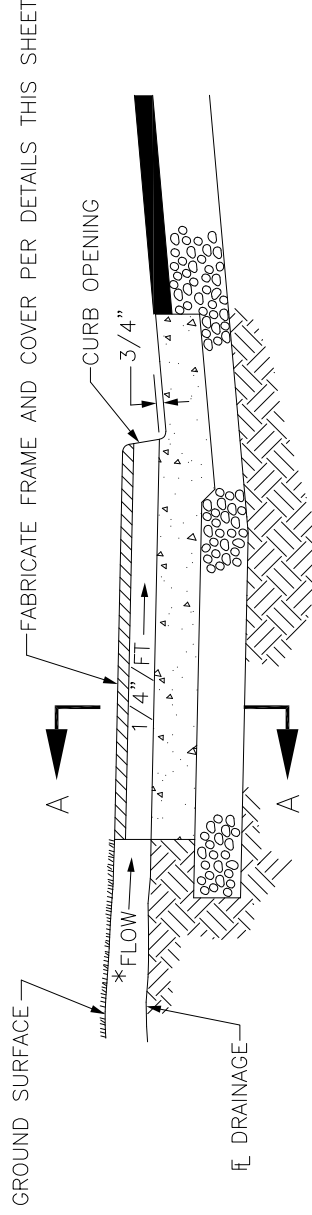
APPLICATION, BMP/CONTROL MEASURE	NARRATIVE	M-STANDARD/ NON-STANDARD	IN USE ON SITE	BMP/CONTROL MEASURE TO BE LOCATED BY SWMP ADMINISTRATOR	INSTALLATION BMP/CONTROL MEASURE PRE-CONSTRUCTION	BMP/CONTROL MEASURE PHASING		
						FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERM CONSTRUCTION ACTIVITIES	PERMANENT STABILIZATION
PROTECTION OF EXISTING WETLANDS Fence (plastic) and erosion logs	Fence (plastic) shall be placed in combination with erosion logs to prevent encroachment of construction traffic and sediment into state waters prior to start of construction disturbances. fence (plastic) shall be placed adjacent to the wetlands; erosion logs shall be placed between the plastic fence and disturbance area. Logs shall be placed to direct flows away from or filter water running into wetlands from disturbance areas.					X	X	
PROTECTION OF EXISTING TREES/LANDSCAPING Fence (plastic)	Fence (plastic) shall be used in areas indicated in the plans to prevent encroachment of construction traffic and sediment for the protection of mature trees and/or existing landscaping prior to start of construction disturbances.					X	X	
STOCKPILE PROTECTION Temporary berm, erosion logs, aggregate bags*	Placed within specified distance, in accordance with subsection 208.06, from toe to contain sediment around stockpile. *Aggregate bags are easily moved and replaced for access during the work day. Place prior to start of stock pile, increase control as stock pile increases size	M-208					X	
TOE OF FILL PROTECTION Erosion logs, temporary berm, silt fence, topsoil window*	Place prior to slope/embankment work to capture sediment and protect and delineate undisturbed areas. *Can be used to stockpile topsoil for salvage.	M-208				X	X	
PERIMETER CONTROL Erosion logs, silt fence, temporary berm, topsoil window*	Placed prior to construction commencing to address potential run-on water from off site, and to divert around disturbed area. *Can be used to stockpile topsoil for salvage.	M-208				X	X	
SEDIMENT CONTROL/SLOPE CONTROL Silt fence, erosion logs	Placed on the contour of a slope to contain and slow down construction runoff. Place prior to start of construction disturbances.	M-208				X	X	
OUTLET PROTECTION Riprap, or approved other	Material placed as energy dissipater to prevent erosion at outlet structure.						X	X
CONCRETE WASHOUT In-ground or fabricated	Construction control, used for waste management of concrete and concrete equipment cleaning. Place prior to start of concrete activities.	M-208				X	X	
VEHICLE TRACKING PAD	Source control, placed to prevent tracking of sediment from disturbed area to offsite surface. Place prior to start of construction disturbances.	M-208				X	X	
SWEEPING	Source control, used to remove sediment tracked onto paved surfaces and to prevent sediment from entering drainage system. Sweep daily and at the end of the construction shift as needed. Kick brooms shall not be permitted.					X	X	
DEWATERING (Contractor is responsible for obtaining a permit from Colorado Department of Health and Environment.)	Shall be done in such a manner to prevent potential pollutants from entering state waters.					X	X	
TEMPORARY STREAM CROSSING (SWMP Administrator shall add locations to SWMP site maps)	Constructed over stream or drainage to prevent discharge of pollutants from construction equipment into water.					X	X	

Print Date: 2017-01-18	Sheet Revisions		As Constructed		STORM WATER MANAGEMENT PLAN NOTES		Project No./Code	
File Name: GRJ F.5-30.8 Bridge Replacement.dwg	Date:	Comments	No Revisions:	Designer: Justin Vensel		BRO M555-031		
Horiz. Scale: 1:20	Init.		Revised:	Detailer: Hanna M Costanzo		20432		
Unit Information: City of GJ Unit Leader Initials: JJV			Void:	Sheet Subset: _____		Sheet Number		
				Subset Sheets: 3 of 4		30		

NONsediment on the project site.
 Construction controls are BMPs/Control Measures related to construction access and staging.
 BMP/Control Measure locations are indicated on the SWMP site map.

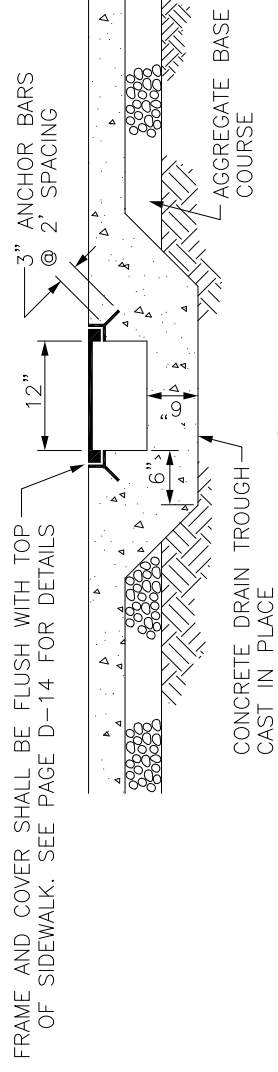
APPLICATION, BMP/CONTROL MEASURE	NARRATIVE	M-STANDARD	IN USE ON SITE	BMP/CONTROL MEASURE TO BE LOCATED BY SWMP ADMINISTRATOR	INSTALLATION BMP/CONTROL MEASURE PRE-CONSTRUCTION	BMP/CONTROL MEASURE PHASING		
						FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERM CONSTRUCTION ACTIVITIES	PERMANENT STABILIZATION
TOPSOIL MANAGEMENT STOCKPILE/SALVAGE Windrow or stockpile	Prior to embankment work commencing, existing topsoil shall be scraped to a depth of 4 inches, and placed in stockpiles or windrows. Upon completion of slope work/final grading (less 4 inches), topsoil shall be evenly distributed to a depth of 4 inches.					X	X	
SURFACING ROUGHENING/GRADING TECHNIQUES Blading, Backhoe, Dozing, Combination Loader	Temporary stabilization of disturbance and to minimize wind and erosion						X	
BONDED FIBER MATRIX/HYDRAULIC MULCH	Not to be used in areas of concentrated flows, i.e. ditch lines. To be used in combination with surface roughening for temporary stabilization of disturbed soils, when work is temporarily halted and as approved by the Engineer. may be used as surface cover for temporary topsoil stockpiles.						X	
MULCH/MULCH TACKIFIER	Temporary or Final Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer.						X	X
SEEDING PERMANENT (NATIVE)	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.							X

Print Date: 2017-01-18	Sheet Revisions		As Constructed		STORM WATER MANAGEMENT PLAN NOTES		Project No./Code	
File Name: GRJ F.5-30.8 Bridge Replacement.dwg	Date:	Comments	No Revisions:	Designer: Justin Vensel		BRO M555-031		
Horiz. Scale: 1:20	Init.		Revised:	Detailer: Hanna M Costanzo		20432		
Unit Information: City of GJ Unit Leader Initials: JUV			Void:	Sheet Subset: -----		Sheet Number		
				4 of 4		31		



SEE PAGE C-02 FOR DIMENSIONS OF MONOLITHIC CURB, GUTTER AND SIDEWALK

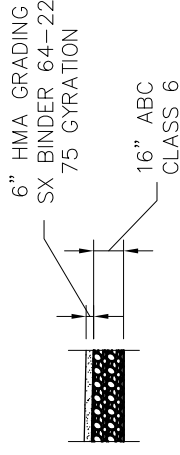
*DIRECTION OF FLOW SHALL BE FROM STREET TO PROPERTY ONLY.



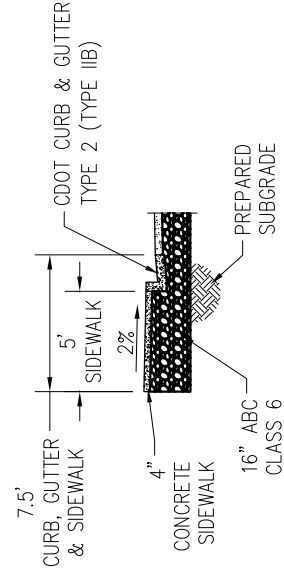
SECTION A-A

*WHEN THE RUNOFF FLOW RATE EXCEEDS THE DRAIN TROUGH CAPACITY, OTHER APPROVED CONVEYANCE METHODS/FACILITIES SHALL BE UTILIZED.

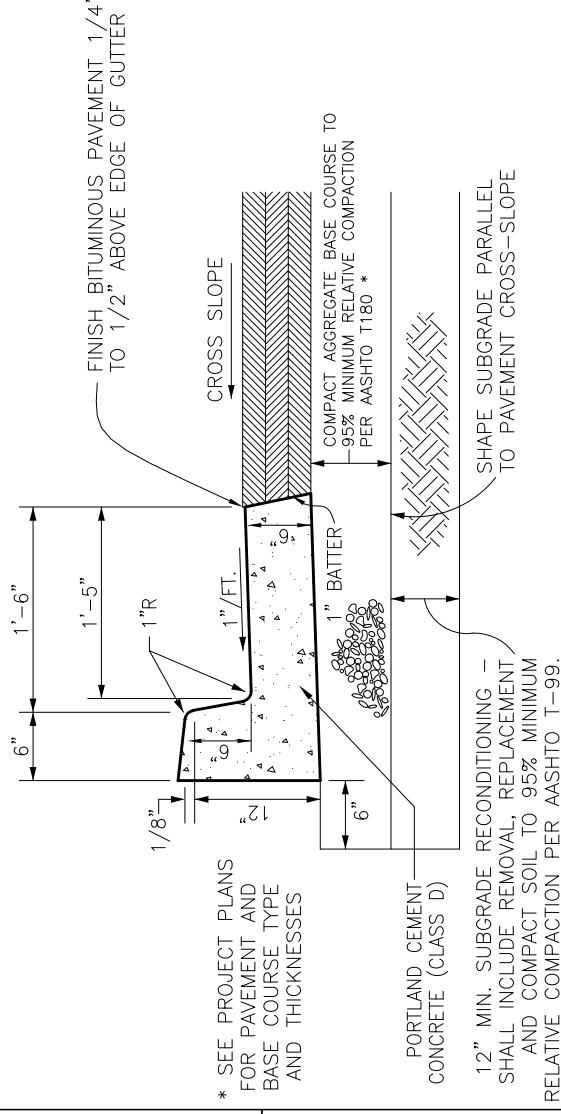
DRAIN TROUGH FOR SIDEWALK CROSSING
N.T.S.



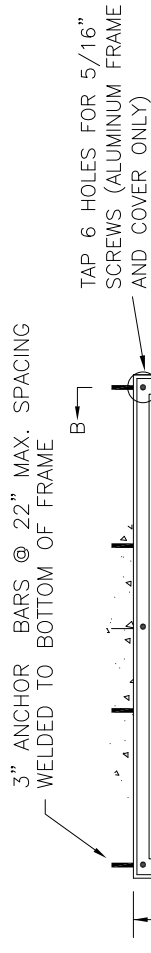
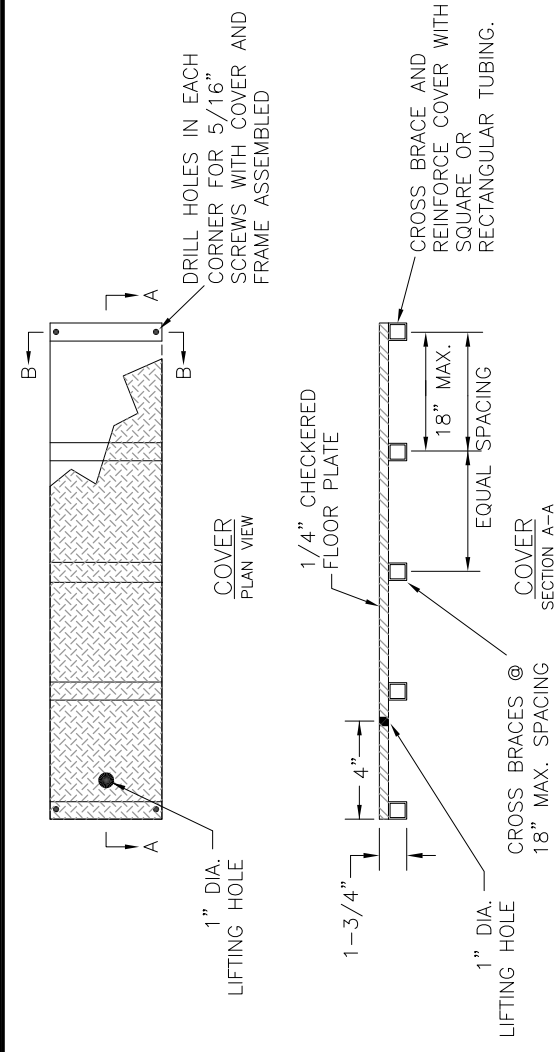
PAVEMENT SECTION DETAIL
N.T.S.



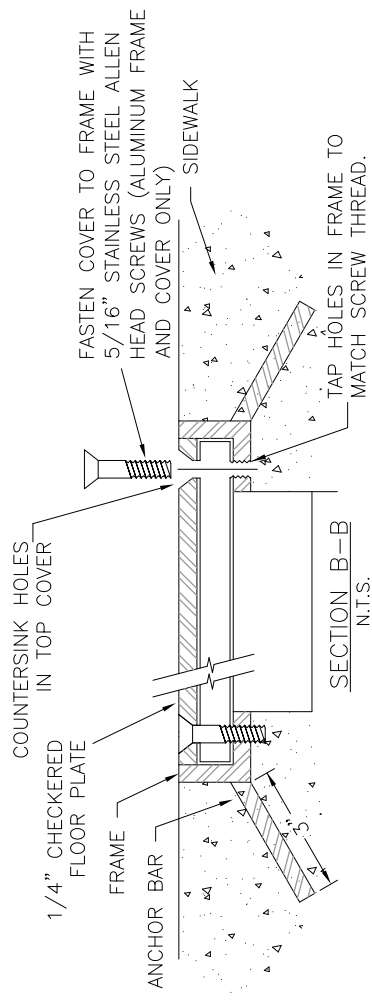
TYPICAL SIDEWALK SECTION
N.T.S.



STANDARD CURB AND GUTTER
N.T.S.



FRAME, COVER, SHIMS AND CROSS BRACING SHALL BE FABRICATED OF SAME MATERIAL (STEEL OR ALUMINUM). STEEL COVERS SHALL BE GALVANIZED FOLLOWING FABRICATION. STEEL FRAMES SHALL BE GALVANIZED OR SHOP PRIMED AND PAINTED WITH ALUMINUM PAINT MEETING CDOT SPEC. 708.04



FRAME AND COVER FOR SIDEWALK TROUGH
N.T.S.

Print Date: 2017-01-18

File Name: GRJ F-5-30.8 Bridge Replacement.dwg

Horiz. Scale: 1:10 Vert. Scale: NA

Unit Information: City of GJ Unit Leader Initials: JUV

Sheet Revisions

Date:	Comments	Init.



As Constructed

No Revisions:	
Revised:	
Void:	

DETAILS

Designer:	Justin Vensel	Structure Numbers	
Detailer:	Hanna M Costanzo		
Sheet Subset:		Subset Sheets:	1 of 1

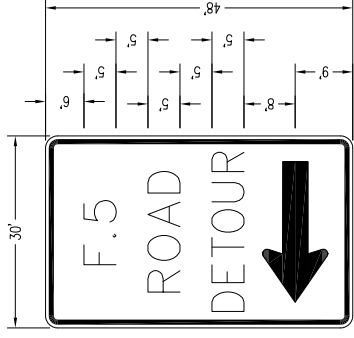
Project No./Code

BRO M555-031

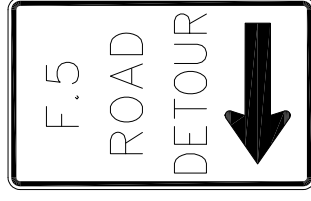
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Sheet Number

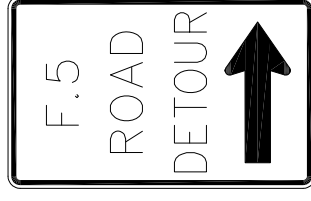
32



SPECIAL PANEL DETAIL
(TYPICAL PANELS A & B)



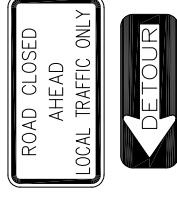
(A)



(B)



(C) 48W20-2



(F) 60R11-3
48M4-10L



(D) 48W20-1



(G) 60R11-3



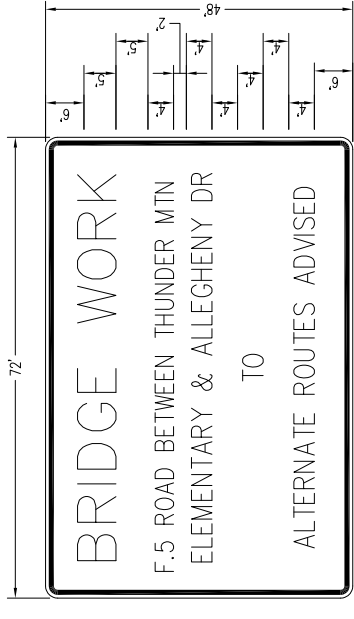
(E) 48R11-2

MOUNTED TO TYPE 3 BARRIER



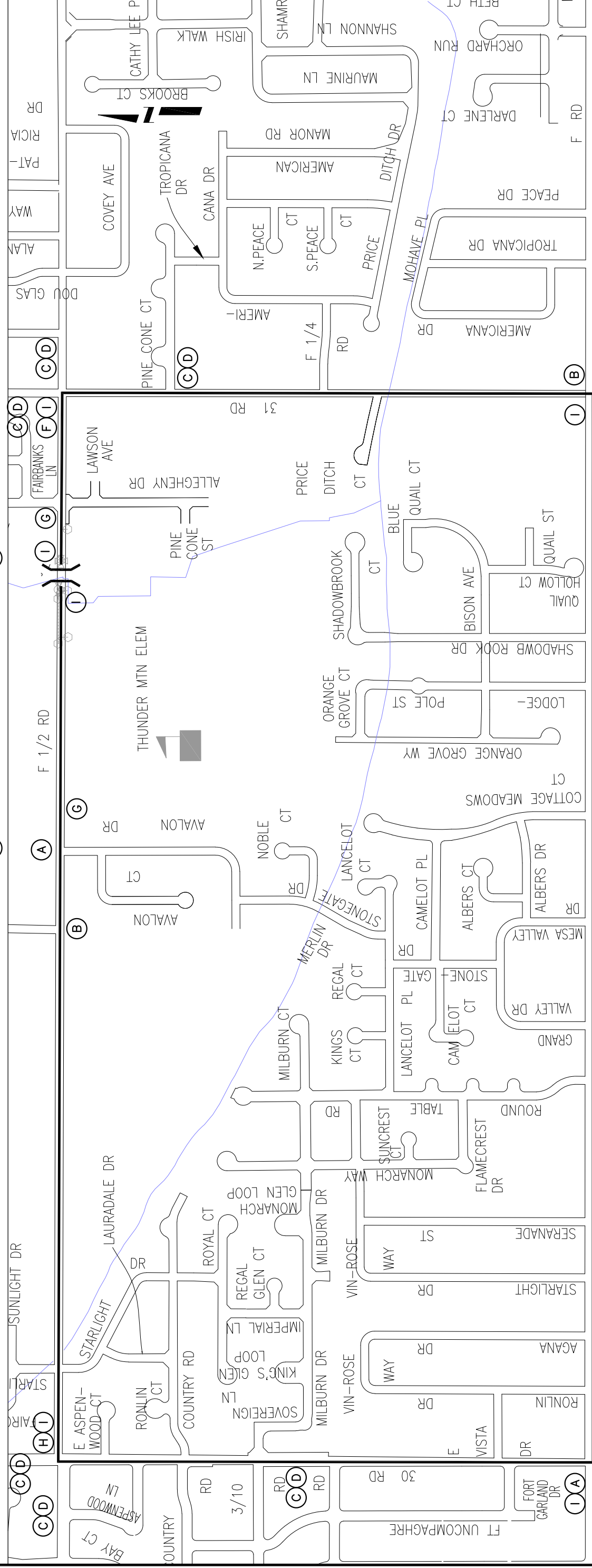
(H) 60R11-3
48M4-10R

MOUNTED TO TYPE 3 BARRIER



SPECIAL PANEL DETAIL

(I)



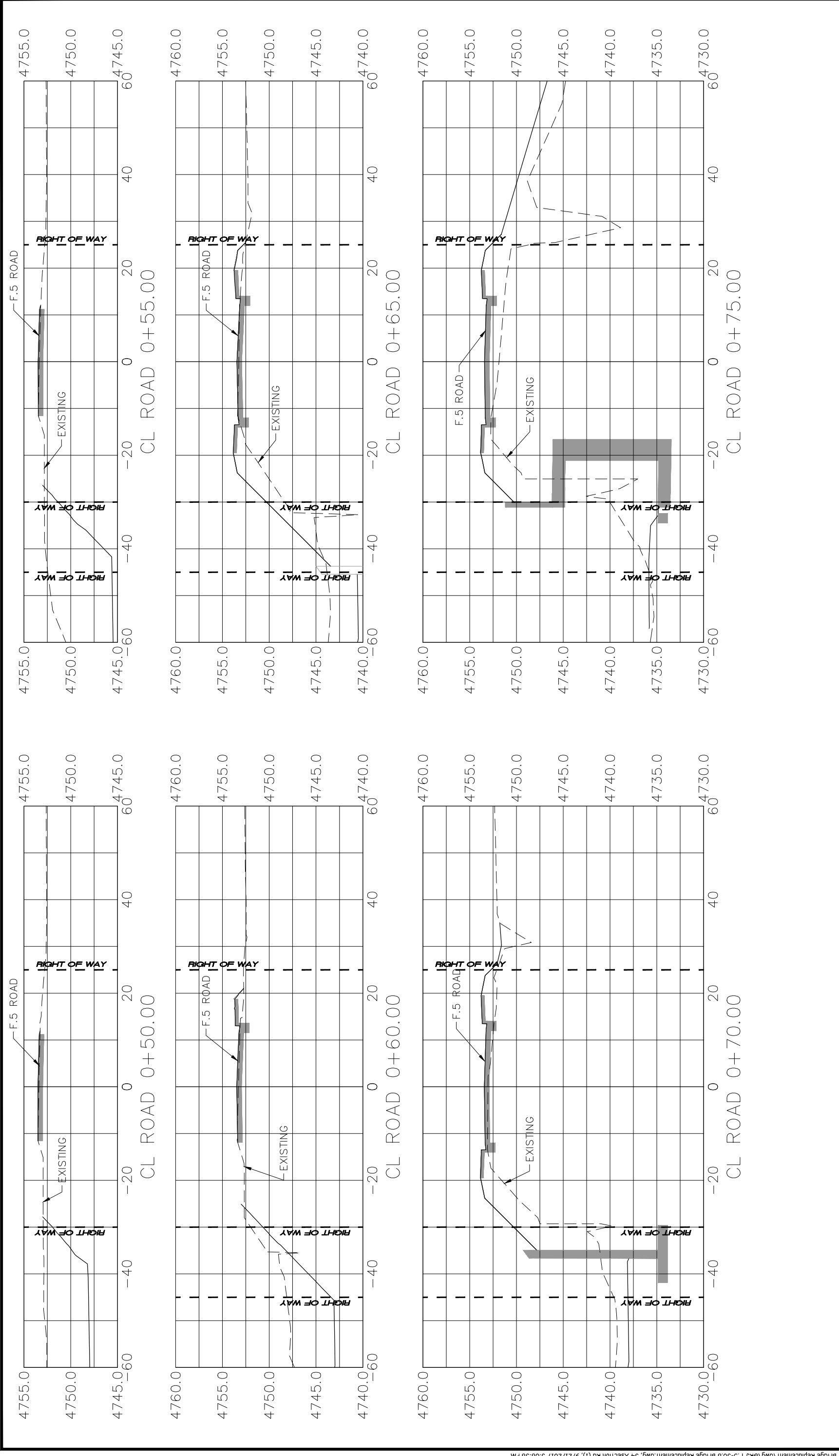
Print Date: 2017-01-18		Project No./Code	
File Name: GRJ F.5-30.8 Bridge Replacement.dwg		BRO M555-031	
Horiz. Scale: 1:500		Vert. Scale: NA	
Unit Information: City of GJ Unit Leader Initials: JUV		Designator: Justin Vensel	
		Detailer: Hanna M Costanzo	
		Structure Numbers	
		20432	
		Sheet Subsets: 1 of 1	
		Sheet Number	
		33	

As Constructed	
No Revisions:	
Revised:	
Void:	



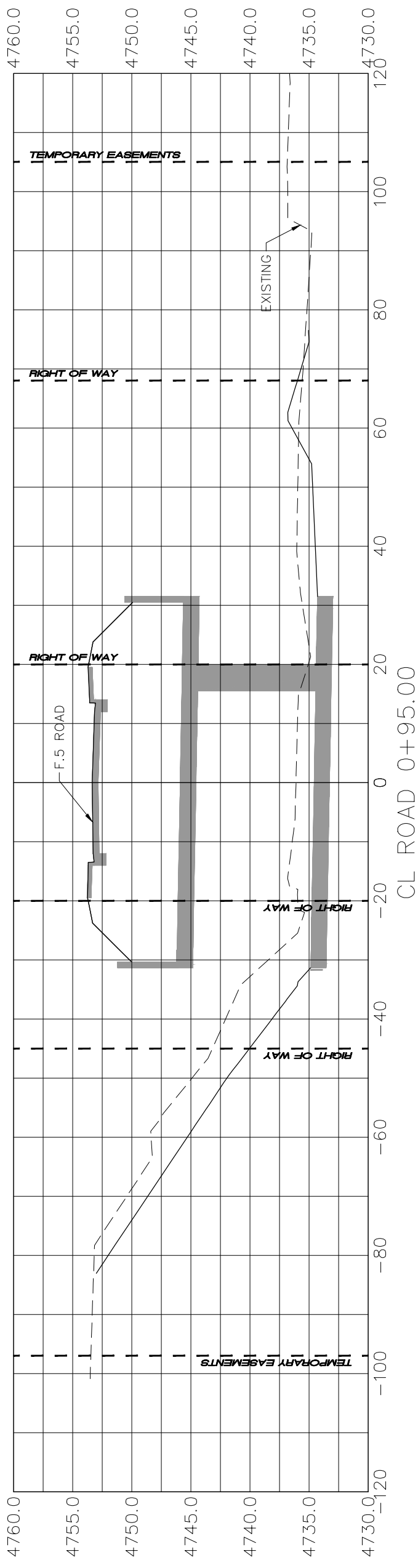
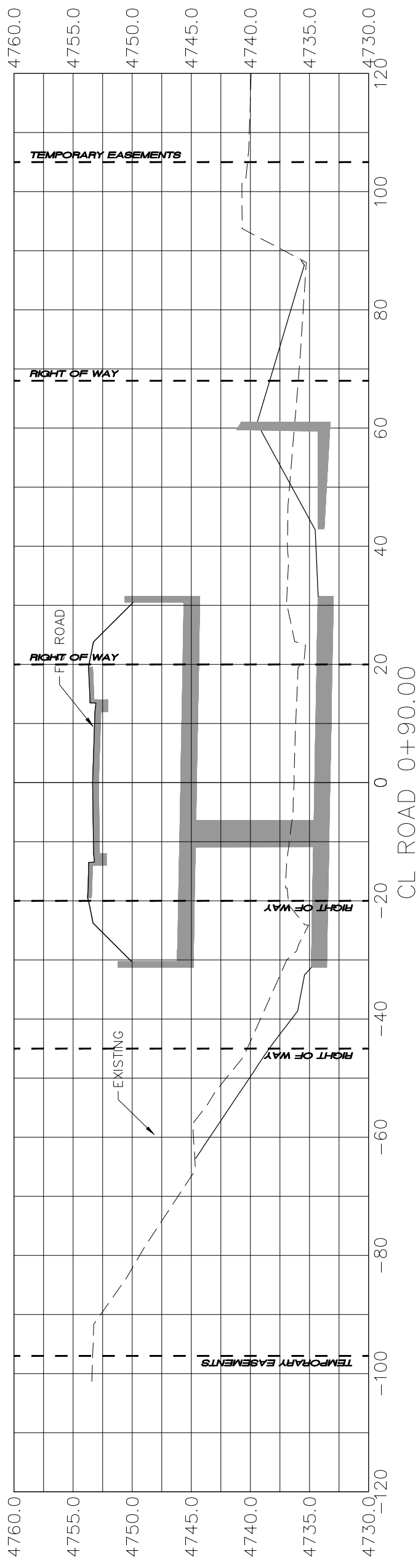
Sheet Revisions	
Date:	Comments

DETOUR MAP	
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Print Date: 2017-01-18 File Name: GRJ F-5-30.8 Bridge Replacement.dwg Horiz. Scale: 1:20 Unit Information: City of GJ Unit Leader Initials: JUV		Sheet Revisions <table border="1"> <thead> <tr> <th>Date:</th> <th>Comments</th> <th>Init.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		Date:	Comments	Init.										As Constructed No Revisions: Revised: Void:		Cross Sections F.5 Road Designer: Justin Vensel Detailer: Hanna M Costanzo Structure Numbers: -- Sheet Subset: ----- Subst Sheets: 1 of 1		Project No./Code BRO M555-031 20432 Sheet Number 34	
Date:	Comments	Init.																			





Print Date: 2017-01-18

File Name: GRJ F.5-30.8 Bridge Replacement.dwg

Horiz. Scale: 1:20

Unit Information: City of GJ Unit Leader Initials: JUV

Sheet Revisions

Date:	Comments	Init.



As Constructed

No Revisions:

Revised:

Void:

Cross Sections

F.5 Road

Designer: Justin Vensel

Detailer: Hanna M Costanzo

Structure Numbers

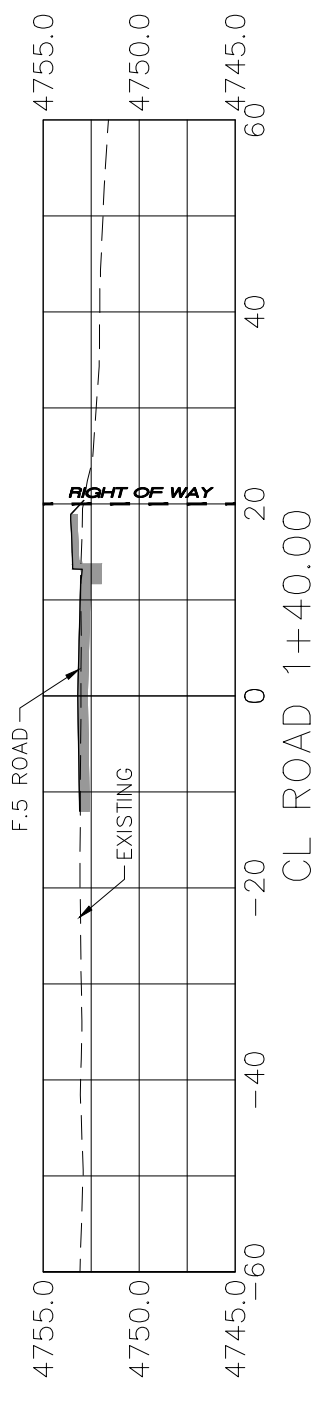
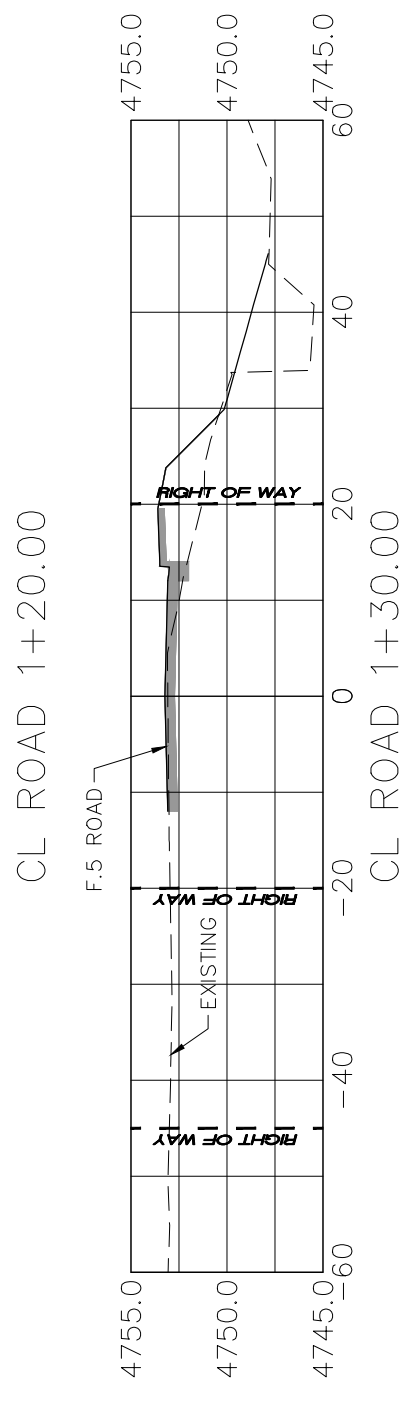
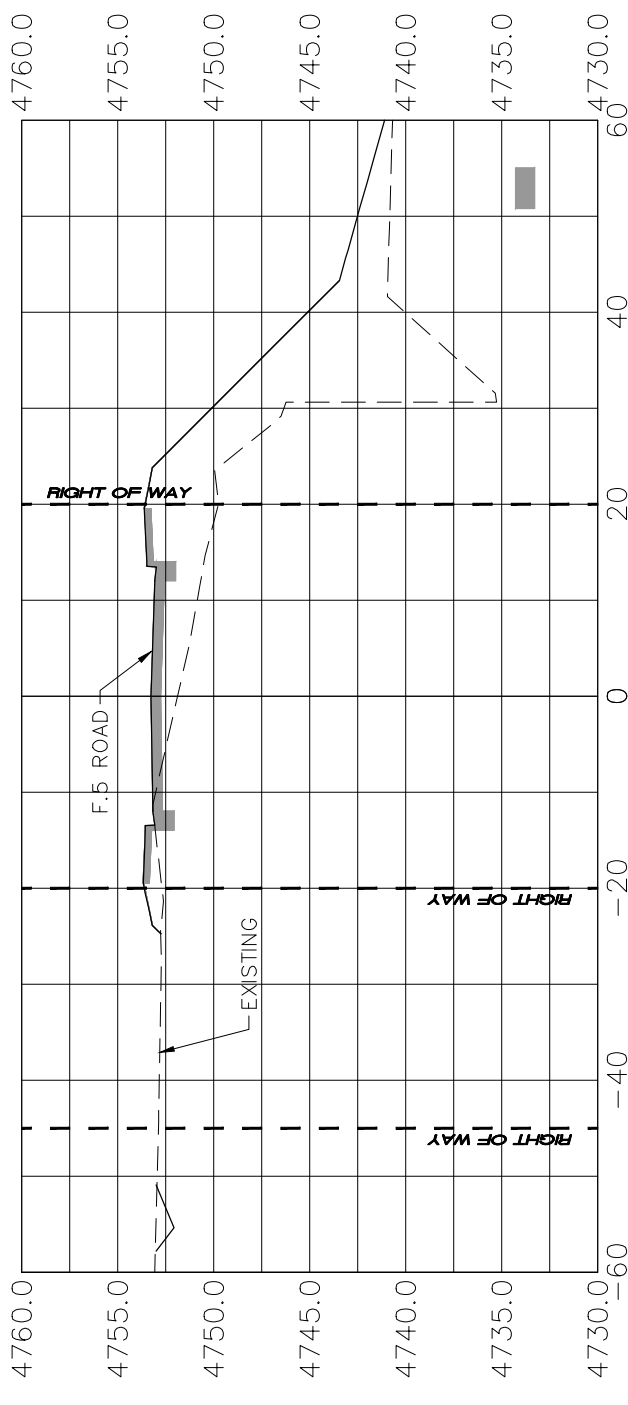
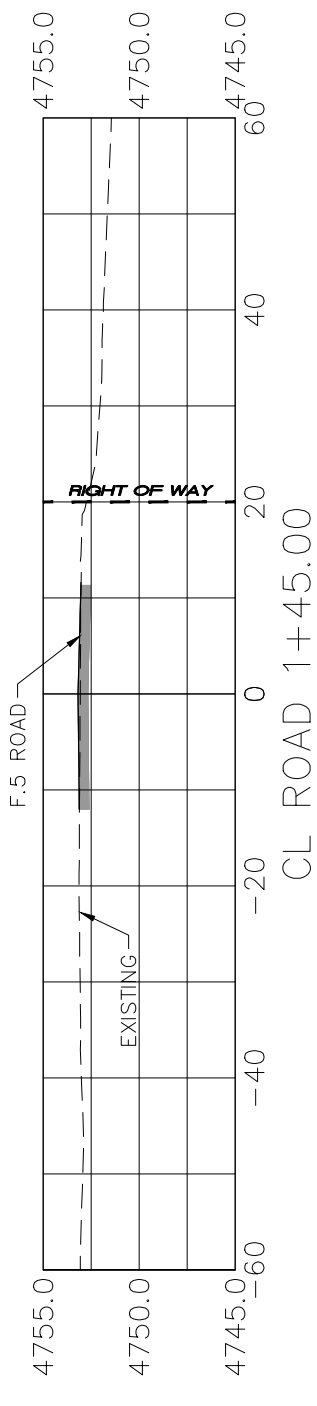
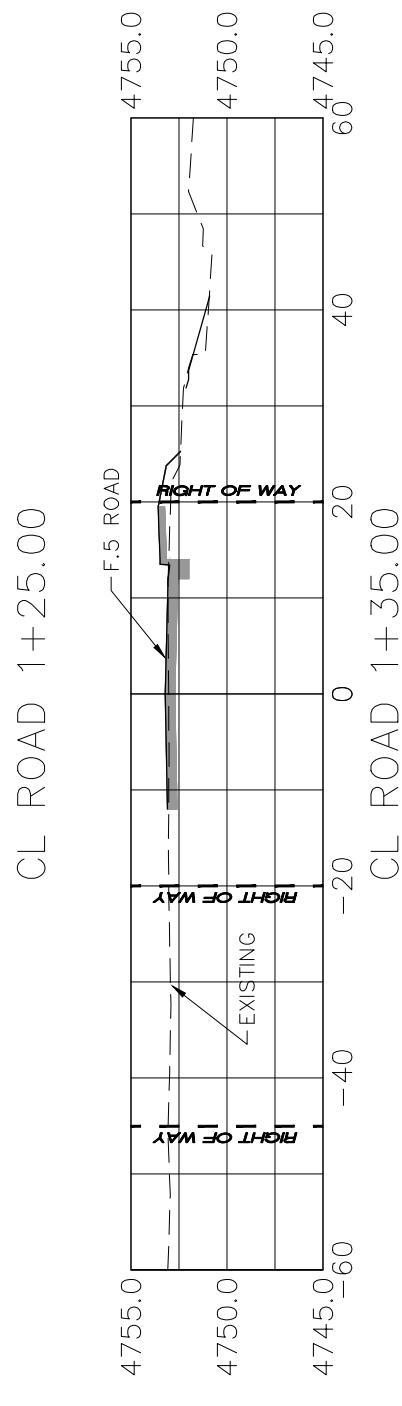
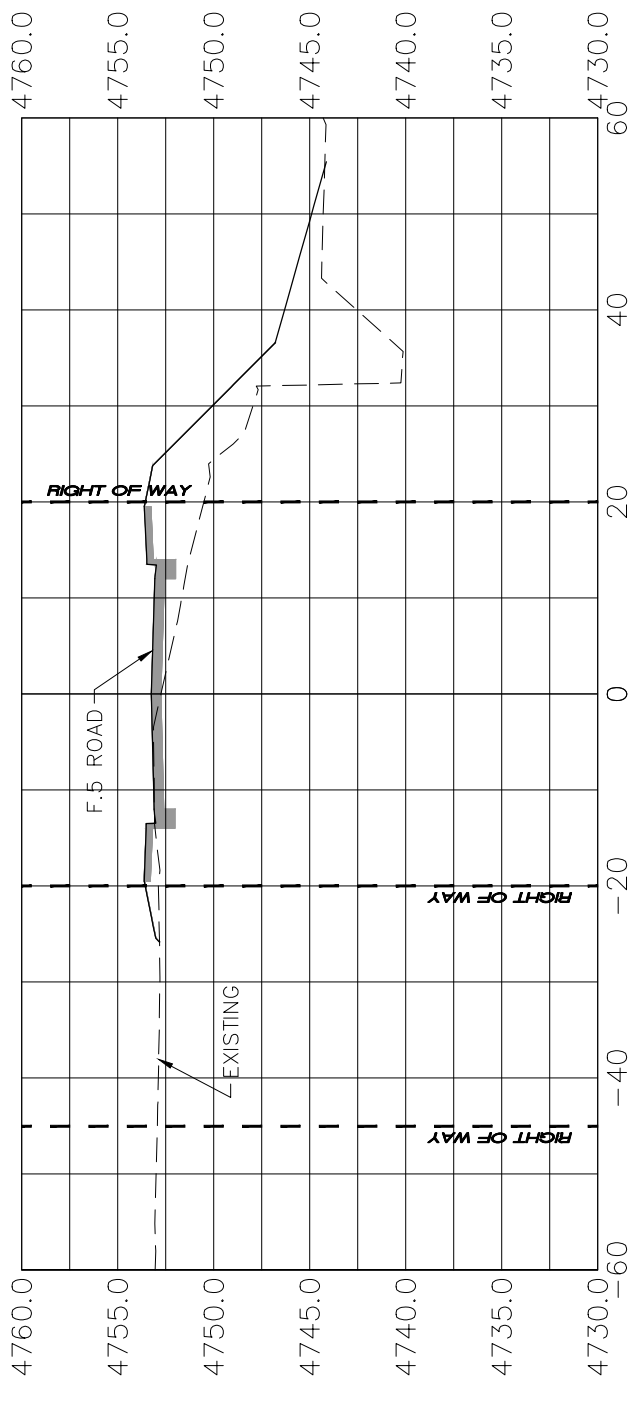
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Project No./Code

BRO M555-031

20432

Sheet Number 35



		Cross Sections F.5 Road		Project No./Code BRO M555-031	
As Constructed		Designer: Justin Vensel Detailer: Hanna M Costanzo		Structure Numbers 20432	
No Revisions:		Revised:		Sheet Subsets: 1 of 1	
Void:		Sheet Subsets:		Sheet Number 36	
Print Date: 2017-01-18		File Name: GRJ F.5-30.8 Bridge Replacement.dwg		Unit Information: City of GJ Unit Leader Initials: JUV	
Horiz. Scale: 1:20		Vert. Scale: 1:10		Date:	
Sheet Revisions		Comments		Init.	

GENERAL NOTES

1. ALL CONCRETE SHALL BE CLASS D (BOX CULVERT).
2. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED BEFORE FRESH CONCRETE IS PLACED.
3. ALL CONSTRUCTION JOINTS NOT SHOWN ON THE PLANS SHALL BE CONSTRUCTED ONLY IF APPROVED BY THE ENGINEER.
4. THE CONTRACTOR SHALL MAINTAIN THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.
5. STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH STANDARD PLAN M-206-1.
6. FOR ANY CULVERT SPAN 20 FT. OR GREATER, A FOUNDATION INVESTIGATION AND REPORT ARE REQUIRED.
7. BACKFILL SHALL NOT BEGIN UNTIL TOP SLAB HAS REACHED DESIGN STRENGTH, f_c .
8. SPLICE QUANTITIES FOR LONGITUDINAL AND TRANSVERSE BARS ARE NOT INCLUDED.
9. REINFORCING STEEL SHALL BE GRADE 60.
10. THE MINIMUM LAP SPLICE LENGTH FOR EPOXY COATED REINFORCING BARS SHALL BE:

BAR SIZE:	#4	#5	#6	#7	#8	#9	#10	#11
SPLICE LENGTH:	1'-3"	1'-7"	2'-5"	3'-10"	3'-8"	4'-8"	5'-11"	7'-3"

THE MINIMUM LAP SPLICE LENGTH FOR BLACK REINFORCING BARS SHALL BE:

BAR SIZE:	#4	#5	#6	#7	#8	#9	#10	#11
SPLICE LENGTH:	1'-1"	1'-4"	1'-7"	1'-11"	2'-6"	3'-1"	3'-11"	4'-10"

THE ABOVE SPLICE LENGTHS ARE FOR CLASS B SPLICES.

11. ALL DIMENSIONS ARE PERPENDICULAR TO THE CENTERLINE OF THE BOX.
12. WINGWALLS SHALL BE TIED TO CONCRETE BOX CULVERT IN ACCORDANCE WITH STANDARD PLAN M-601-20.
13. ALL TRANSVERSE REINFORCING SHALL BE NORMAL TO THE CENTERLINE OF THE BOX.
14. THE FILL HEIGHT IS THE DISTANCE MEASURED FROM THE TOP OF THE TOP SLAB TO THE TOP OF PAVEMENT.
15. ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED $\frac{3}{4}$ ".
16. FOR FILL HEIGHTS LESS THAN 2 FT. A WATERPROOFING MEMBRANE SHALL BE PROVIDED FOR THE TOP OF THE TOP SLAB AND 18" DOWN ALONG THE TOPS OF THE EXTERIOR WALLS.
17. FOR FILL HEIGHTS LESS THAN 2 FT, THE d_1 BARS FOR THE BOTTOM MAT OF THE TOP SLAB SHALL BE AS FOLLOWS:

S	6, 8	10, 12, 16	14, 18	20
BAR SIZE:	#4	#5	#6	#7
SPACING:	0'-6"	1'-0"	1'-2"	1'-2"

DESIGN DATA: 7TH EDITION, 2014, OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
 RATING DATA: 2ND EDITION, 2011, OF THE AASHTO MANUAL FOR BRIDGE EVALUATION

LOADING DATA:
 $f_y = 60,000$ psi,
 $f_c = 4,500$ psi,

LIVE LOAD = AASHTO LRFD, HL-93 TRUCK, HL-93 TANDEM, COLORADO PERMIT TRUCK AND NRL
 DEAD LOAD CASE 1: VERTICAL EARTH LOAD = 120 LBS./CU. FT.
 HORIZONTAL EARTH LOAD = 30 LBS./CU. FT.

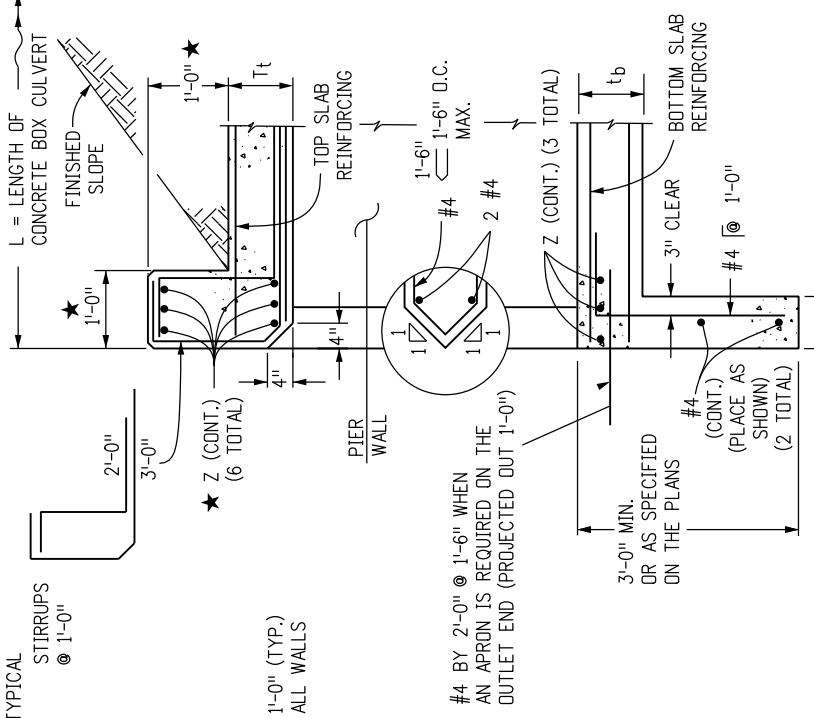
DEAD LOAD CASE 2: VERTICAL EARTH LOAD = 120 LBS./CU. FT.
 HORIZONTAL EARTH LOAD = 60 LBS./CU. FT.

WEARING SURFACE - 12 IN. THICK CONCRETE PAVEMENT.
 DEAD LOAD - TYPE 7 BARRIER.

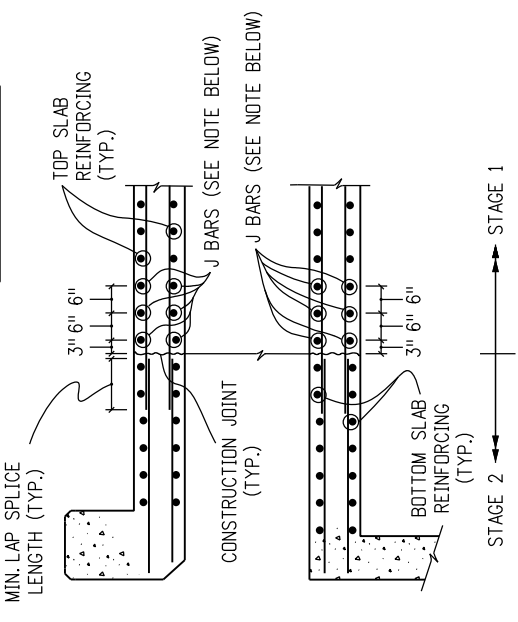
THRUST IS NOT CONSIDERED IN THIS STANDARD, I.E. THRUST = 0.
 EXTREME HEADWATER TO DEPTH RATIO IS IN ACCORDANCE WITH THE CDOT DRAINAGE MANUAL.
 EXTREME HEADWATER TO DEPTH RATIO WAS INCLUDED IN THE CULVERT DESIGNS BUT EXCLUDED FROM THE RATINGS AS PER THE AASHTO MANUAL FOR BRIDGE EVALUATION.

LIVE LOAD SURCHARGE ON EXTERIOR WALLS = 2 FT. OF EARTH
 IF HEADWALL MOUNT GUARDRAIL IS USED (SEE STANDARD PLAN M-606-1,
 SHEET 19) AND THE NOTES BELOW:

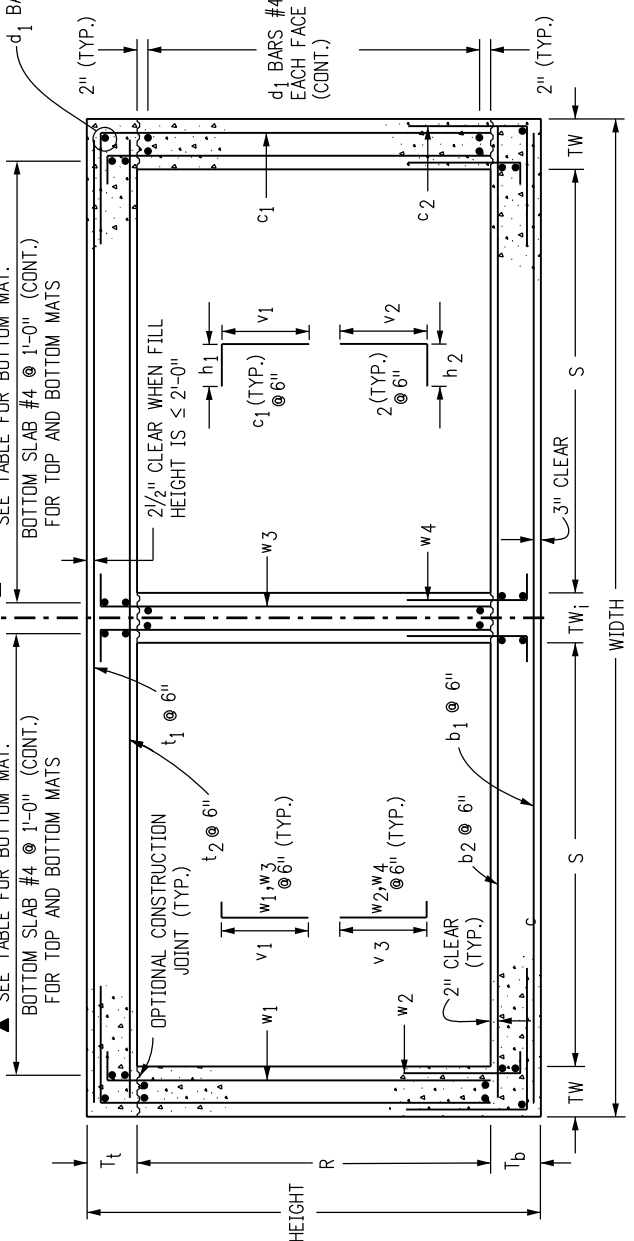
- ALL REINFORCING STEEL SHALL BE ACCORDING TO THIS BOX CULVERT PLAN.
- ANY SPECIAL DESIGN FOR STIRRUPS WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
- HEADWALL DIMENSION AND CONCRETE QUANTITY SHALL BE ACCORDING TO STANDARD PLAN M-606-1, SHEET 19.
- POST ANCHORS SHALL BE PROVIDED ACCORDING TO STANDARD PLAN M-606-1, SHEET 19.
- POST ANCHORS AND CONCRETE FOR HEADWALL MOUNT OF GUARDRAIL WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
- POST ANCHORS WHEN REQUIRED AND ENCASED IN HEADWALL CONCRETE, SHALL CONFORM TO ASTM A 36 OR AASHTO M 169 STEEL.



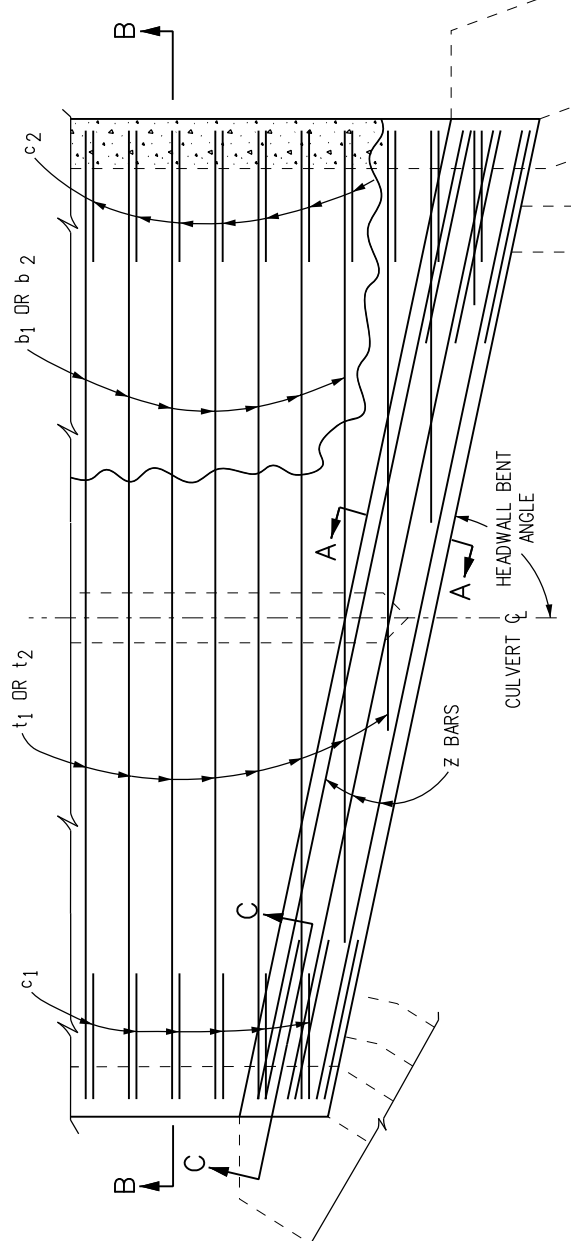
SECTION A-A



CONSTRUCTION JOINT DETAIL FOR STAGED CONSTRUCTION
 NOTE: THIS DETAIL IS FOR CONSTRUCTION JOINTS INSTALLED PERPENDICULAR TO THE ϕ OF THE BOX ONLY. THE CONTRACTOR CAN DESIGN AND INSTALL J BARS AT HIS EXPENSE TO SUPPORT TEMPORARY LIVE LOADS DURING STAGE 1 CONSTRUCTION. J BARS SHALL BE THE SAME SIZE AS THE TOP AND BOTTOM SLAB REINFORCING WHEN THERE ARE NO TEMPORARY LIVE LOADS TO SUPPORT.

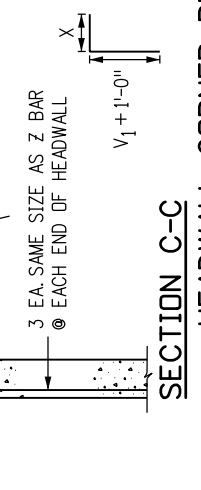


SECTION B-B



REINFORCING PLAN

BAR SIZE (#)	EPOXY (FT.-IN.)	BLACK (FT.-IN.)
4	2-4	1-11
5	2-10	2-4
6	3-5	2-10
7	4-1	3-3
8	5-3	4-3
9	6-8	5-5



SECTION C-C

HEADWALL CORNER REINFORCING DETAIL

Computer File Information	Sheet Revisions	Colorado Department of Transportation	DOUBLE CONCRETE
Creation Date: 07/04/12	Date: 08/27/13	4201 East Arkansas Avenue	STANDARD PLAN NO.
Initials: DD	Comments: LRFD Design	CDOT HQ, 4th Floor	BOX CULVERT
Last Modification Date: 11/25/15	Initials: JBE	Denver, CO 80222	M-601-2
Full Path: www.codot.gov/business/designsupport	Analysis Program Updates	Phone: 303-757-9021 FAX: 303-757-9868	
Drawing File Name: 601020102.dgn			
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English			
		Division of Project Support	Issued By: Project Development Branch July 4, 2012
		DDG/Bridge	Sheet No. 1 of 2 38

DOUBLE CONCRETE BOX CULVERT DIMENSIONS, QUANTITIES & RATING FACTORS (EXCLUDING HEADWALL & TOEWALL QUANTITIES)

BOX SIZE		SLAB & WALL THICKNESS (INCHES)		HEIGHT ALLOWED		DIMENSIONS										QUANTITIES				RATING FACTORS								
S	R	HT.	WIDTH	FT-IN	FT-IN	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇	T ₈	T ₉	T ₁₀	h1	h2	v1	v2	v3	CONCRETE	REBAR STL	MEMBRANE	HL-93 INVENTORY	HL-93 OPERATING	HL-93 COLORADO PERMIT	NRL VEHICLE	
FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	CY/LF	LBS/LF	CY/LF				
6	6	7-9	14-6	14-6	10	10	4	4	4	4	4	4	4	4	4	3-1	2-4	1-11	1-11	1-11	1.495	338	1.944	1.27	1.65	2.09	2.05	
		7-7.5	14-6	14-6	10	9.5	10	4	4	4	4	4	4	4	4	3-1	2-4	1-11	1-11	1-11	1.428	300	1.944	1.81	2.35	2.90	2.82	
		7-7.5	14-6	14-6	10	10	10	4	4	4	4	4	4	4	4	3-1	2-4	1-11	1-11	1-11	1.428	258	1.944	4.53	5.88	6.42	7.36	
		7-8	14-6	14-6	10	10	10	4	4	4	4	4	4	4	4	3-1	2-4	1-11	1-11	1-11	1.451	258	1.944					
		9-9	14-6	14-6	10	10	10	4	4	4	4	4	4	4	4	3-1	2-4	1-11	1-11	1-11	1.661	365	1.944	1.28	1.66	2.10	2.05	
		9-7.5	14-6	14-6	10	9.5	10	4	4	4	4	4	4	4	4	3-1	2-4	1-11	1-11	1-11	1.613	327	1.944	1.82	2.36	2.85	2.77	
		9-7.5	14-6	14-6	10	10	10	4	4	4	4	4	4	4	4	3-1	2-4	1-11	1-11	1-11	1.613	285	1.944	4.66	6.04	6.82	5.08	
		9-8	14-6	14-6	10	10	10	4	4	4	4	4	4	4	4	3-1	2-4	1-11	1-11	1-11	1.636	317	1.944					
		11-9	14-6	14-6	10	10	10	4	4	4	4	4	4	4	4	3-1	2-4	1-11	1-11	1-11	1.866	392	1.944	1.28	1.67	2.10	2.06	
		11-7.5	14-6	14-6	10	9.5	10	4	4	4	4	4	4	4	4	3-1	2-4	1-11	1-11	1-11	1.833	354	1.944	1.83	2.38	2.88	2.79	
8	8	11-7.5	14-6	14-6	10	9.5	10	4	4	4	4	4	4	4	4	3-1	2-4	1-11	1-11	1-11	1.799	312	2.006	2.22	2.88	2.79	1.96	
		11-8.5	14-10.5	14-10.5	10	10.5	11.5	4	4	4	4	4	4	4	4	3-2	2-0	2-0	2-0	2-0	2.146	362	2.006					
		7-10.5	18-6	18-6	2	10.5	11	5	6	5	5	5	5	5	5	6-10	3-1	2-4	1-11	1-11	1.840	394	2.389	1.20	1.56	1.76	1.49	
		7-8	18-6	18-6	2	10	10	5	6	5	5	5	5	5	5	6-8	3-1	2-4	1-11	1-11	1.698	344	2.389	1.47	1.90	2.19	2.15	
		7-10	18-6	18-6	2	10	10	5	6	5	5	5	5	5	5	6-8	3-1	2-4	1-11	1-11	1.812	332	2.389	2.89	3.74	4.00	4.38	
		7-11	18-6	18-6	2	10	10	5	6	5	5	5	5	5	5	6-8	3-1	2-4	1-11	1-11	1.842	335	2.389	3.37	4.37	4.80	4.86	
		7-11	18-9	18-9	2	10	10	5	6	5	5	5	5	5	5	6-8	3-1	2-4	1-11	1-11	1.842	335	2.389					
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GENERAL NOTES

1. TOLERANCE FOR TOP OF GUARDRAIL BEAM IS ±1 IN.
2. RATE OF SLOPE DEPENDS ON GUARDRAIL LOCATION:
 - A. FOR GUARDRAIL FACE 2 FT. OR LESS FROM THE NORMAL EDGE OF PAVED SHOULDER, CONTINUE THE RATE OF SLOPE OF THE NORMAL PAVED SHOULDER TO THE BREAKPOINT.
 - B. FOR GUARDRAIL FACE MORE THAN 2 FT. FROM THE NORMAL EDGE OF THE PAVED SHOULDER, THE SLOPE SHALL BE 10:1 OR FLATTER.
3. WHEN SPECIFIED ON THE PLANS, EXTEND A 2 IN. MINIMUM THICKNESS PAVED SURFACE TO 1 FT. BEHIND THE GUARDRAIL POSTS OR TO THE EROSION CONTROL CURB AS SHOWN ON PLANS. ASPHALT CUTTING & PATCHING OR OTHER APPROVED METHOD SHALL BE USED TO MINIMIZE DAMAGE TO ALL PAVED SURFACES UNDER GUARDRAIL INSTALLATIONS. ALL REPAIRS TO THE PAVED AREA WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK. A MINIMUM 3 IN. THICK FIBER REINFORCED CONCRETE PAVEMENT MAY ALSO BE USED FOR PAVING BENEATH THE GUARDRAIL. INSTALL THE POST IN A 1/2 IN. OVERSIZED FORMED HOLE FOR GUARDRAIL RUNS AND TERMINALS AS DIRECTED. PAYMENT FOR THIS PAVED SURFACE WILL BE MADE UNDER A PAVEMENT OR CONCRETE PAY ITEM WITH QUANTITIES SHOWN ON THE PLANS.
4. THE MINIMUM GUARDRAIL OFFSET FROM PAVED SHOULDER EDGE SHALL BE:
 - 0 FT. FOR SHOULDERS 8 FT. OR WIDER
 - 2 FT. FOR SHOULDERS 6 FT. OR LESS
 THE GUARDRAIL OFFSET FROM PAVED INSIDE SHOULDER EDGE OF A DIVIDED HIGHWAY SHALL BE:
 - 0 FT. MINIMUM FOR SHOULDERS 6 FT. OR WIDER
 - 2 FT. DESIRABLE FOR 4 FT. SHOULDERS

- THE ABOVE 2 FT. GUARDRAIL TO SHOULDER OFFSET IS DESIRABLE BUT NOT REQUIRED FOR:
- A. FOR AN EXISTING HIGHWAY WITH A DESIGN SPEED LESS THAN 50 MPH, THE MINIMUM OFFSET IS 4 FT. FROM THE TRAVELED WAY.
 - B. FOR A ONE-WAY ONE-LANE RAMP, AND WHERE ONE OR MORE OF THE FOLLOWING ARE TRUE:
 - (1) THE NON-OFFSET GUARDRAIL BEGINS AT LEAST 100 FT. BEYOND RAMP NOSE.
 - (2) THE NON-OFFSET GUARDRAIL IS NOT LOCATED ON THE RAMP EXIT OR ENTRANCE CURVE CONNECTION TO THE MAJOR HIGHWAY.
 - (3) THE RAMP SHOULDERS ARE 4 FT. OR WIDER.

USE OF GREATER THAN MINIMUM OFFSET DIMENSIONS IS ENCOURAGED TO MEET THE DESIRABLE GOAL OF PLACING THE GUARDRAIL AS FAR AS POSSIBLE FROM THE TRAVEL WAY, EVEN FOR SHORT DISTANCES, WHILE PROVIDING A SMOOTH CHANGE IN GUARDRAIL ALIGNMENT.

5. IF 2 FT. CANNOT BE PROVIDED BETWEEN THE BACK OF THE GUARDRAIL POST AND THE BREAKPOINT, USE 7 FT. GUARDRAIL POSTS. REFER TO THE "RESTRICTIVE ROADSIDE INSTALLATION" DETAIL.

6. WHEN SPECIFIED ON THE PLANS, INSTALL 4 IN. HIGH TYPE 6 CURB WITH ITS FACE AT OR BEHIND THE RAIL FACE. AS AN ALTERNATIVE WHEN SPECIFIED ON THE PLANS, INSTALL A 2 IN. x 6 IN. TREATED (AASHTO M 133) WOOD CURB. FASTEN WITH A 4 IN. LAG BOLT AND WASHER AT EACH WOOD POST, OR WITH A 1/4 IN. DIA. BOLT WITH WASHER AND NUT AT EACH STEEL POST. IF THE 2 IN. x 6 IN. WOOD CURB IS SPECIFIED, IT WILL BE INCLUDED IN THE COST OF THE GUARDRAIL. IF APPROVED BY THE ENGINEER, A 2 IN. x 4 IN. TREATED WOOD CURB MAY BE SUBSTITUTED FOR THE 2 IN. x 6 IN. CURB AND SET ON TOP OF PAVEMENT SURFACE AND ATTACHED AS DESCRIBED ABOVE. NO SPlicing SHALL BE ALLOWED IN WOOD CURBS. ADJACENT BOARDS SHALL BE BUTTED TOGETHER AND BOLTED AT A POST LOCATION. JOINTS SHALL BE LOCATED AT THE POSTS.

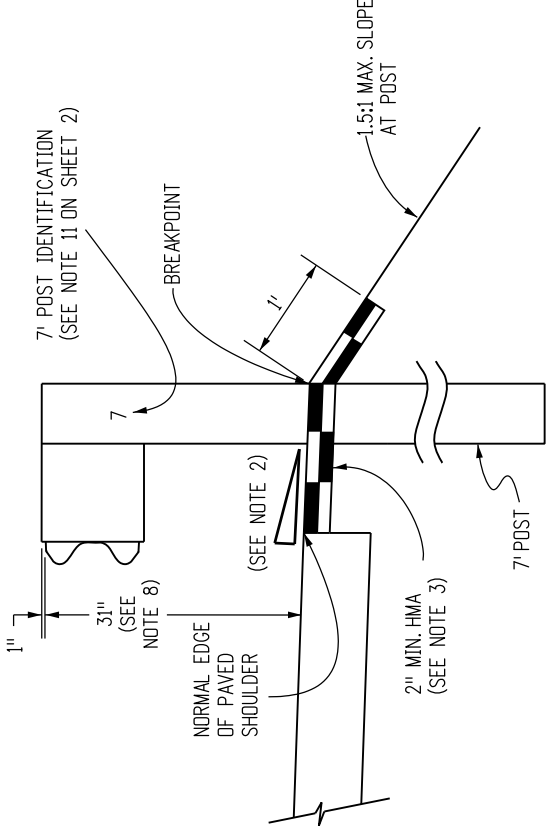
7. SEE SHEETS 7 AND 9 FOR CURB TREATMENTS AT GUARDRAIL TERMINALS.

8. IF THIS DIMENSION WILL BE LESS THAN 28 INCHES, RESET GUARDRAIL HEIGHT TO 28 INCHES OR ABOVE.

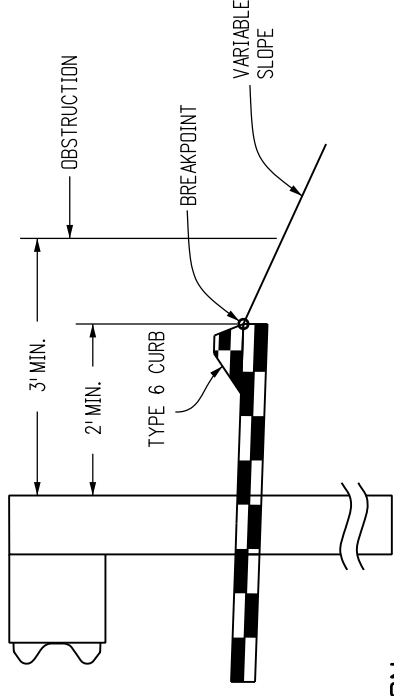
9. ALL W-BEAM SPLICES, AND SPLICES OF TERMINAL CONNECTORS TO W-BEAM SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC UNLESS OTHERWISE NOTED.

10. MATERIAL TYPE AND SHAPE OF POSTS AND BLOCKS SHALL BE THE SAME THROUGHOUT THE PROJECT EXCEPT WHEN SPECIFIC POSTS AND BLOCKS ARE SPECIFIED, I.E. AT END ANCHORAGES AND BOX CULVERTS.

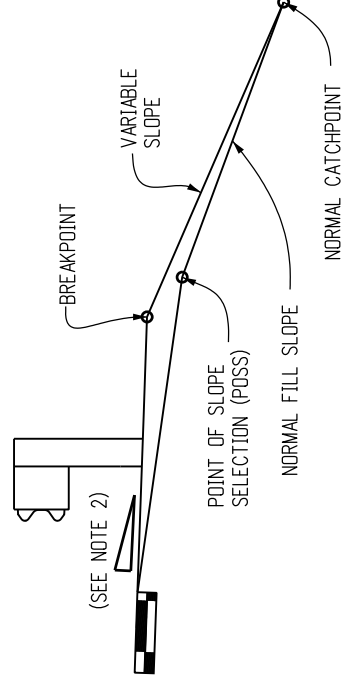
THE GENERAL NOTES CONTINUE ON SHEET 2.



RESTRICTIVE ROADSIDE INSTALLATION WITH 7 FOOT GUARDRAIL POSTS
(SEE NOTE 5)

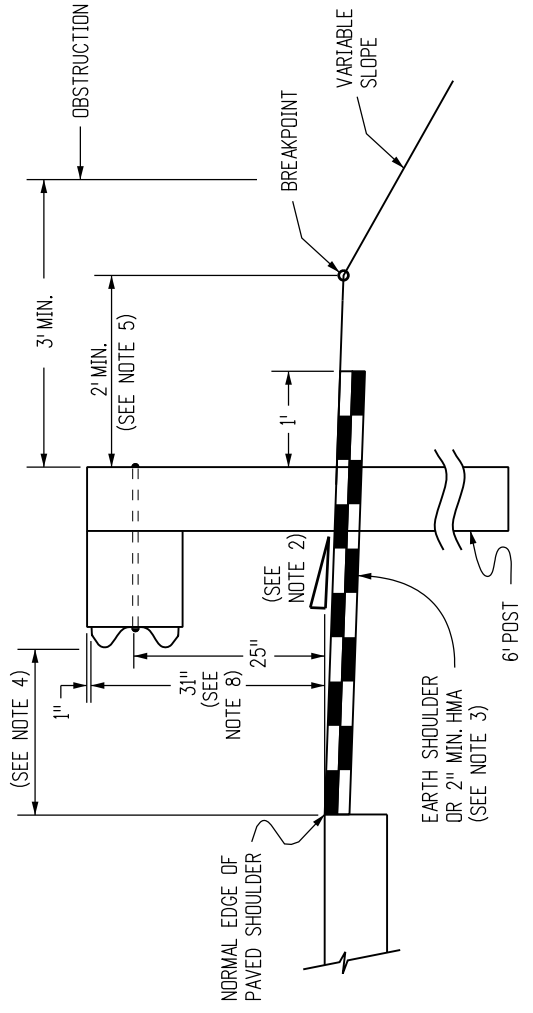


OPTION B

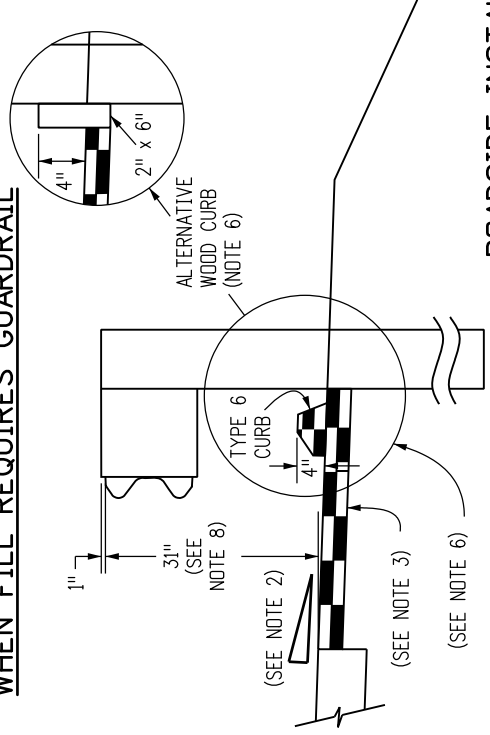


EMBANKMENT WITH GUARDRAIL

(NOTE: THE CATCHPOINT REMAINS THE SAME AS THAT FOR "NORMAL" FILL SLOPE. FOR THE WIDER "Z" DISTANCES, THE VARIABLE SLOPE MAY "CATCH" AT THE POSS.)

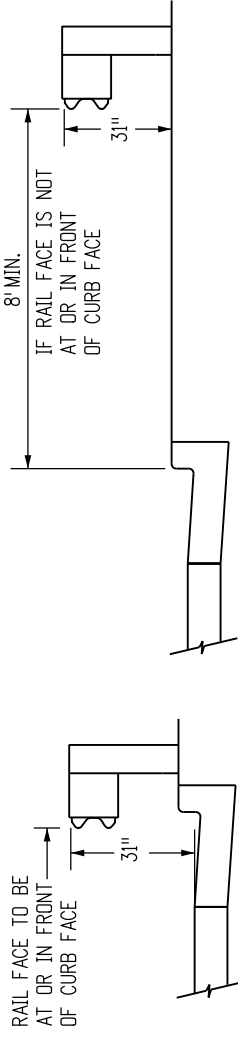


NORMAL ROADSIDE INSTALLATION WHEN FILL REQUIRES GUARDRAIL



OPTION A

ROADSIDE INSTALLATION WITH EROSION CONTROL CURB



URBAN ROADSIDE INSTALLATION WITH CURB AND GUTTER

LOCATION	SPACING
ALL LOCATIONS EXCEPT BRIDGE RAIL LOCATIONS	6'-3"
BRIDGE OR STRUCTURE APPROACH	SEE SHEETS 12 & 20

NORMAL CENTER-TO-CENTER POST SPACING

Computer File Information	
Creation Date: 08/19/15	Initials: DLM
Last Modification Date: 12/29/15	Initials: LTA
Full Path: www.codot.gov/business/designsupport	
Drawing File Name: 6010101020.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions	
Date:	Comments
12/29/15	Raised guardrail heights to 31" and revised general notes and details.
(R-X)	
(R-X)	
(R-X)	

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Division of Project Support

DLM/LTA

MIDWEST

GUARDRAIL SYSTEM (MGS)
TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

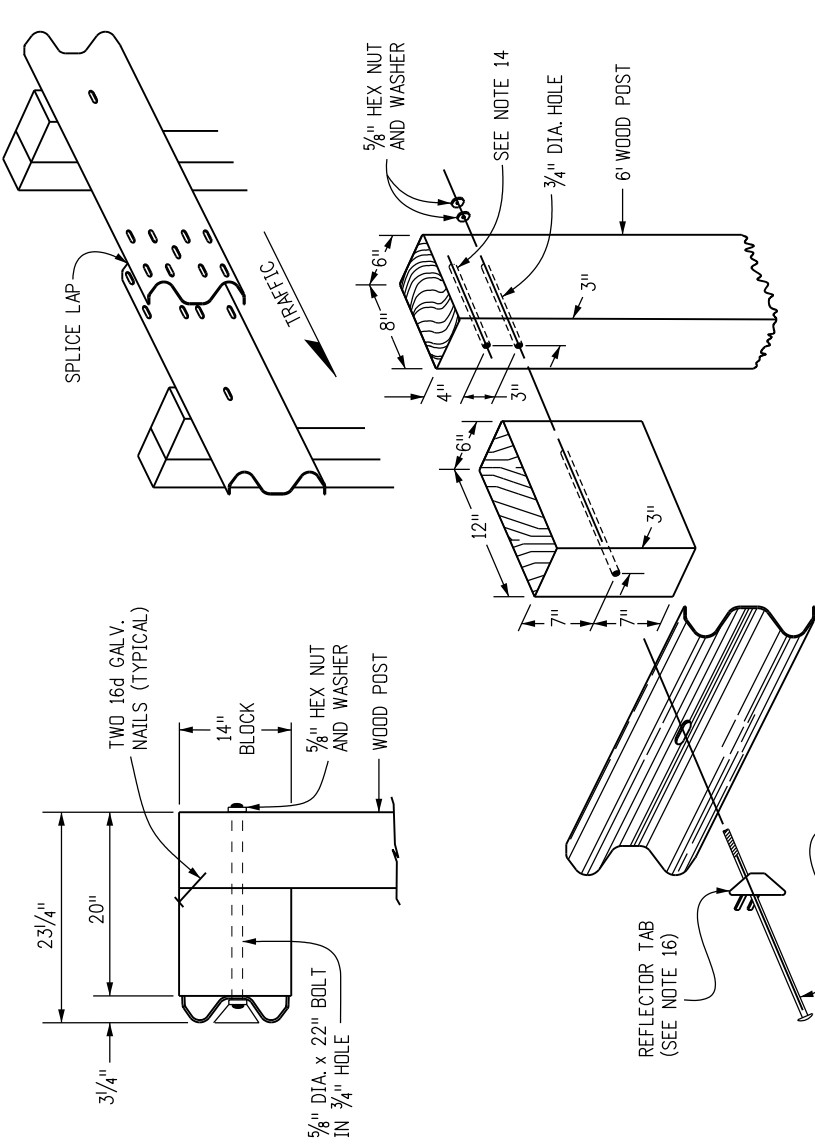
STANDARD PLAN NO.

M-606-1

Sheet No. 1 of 20 41

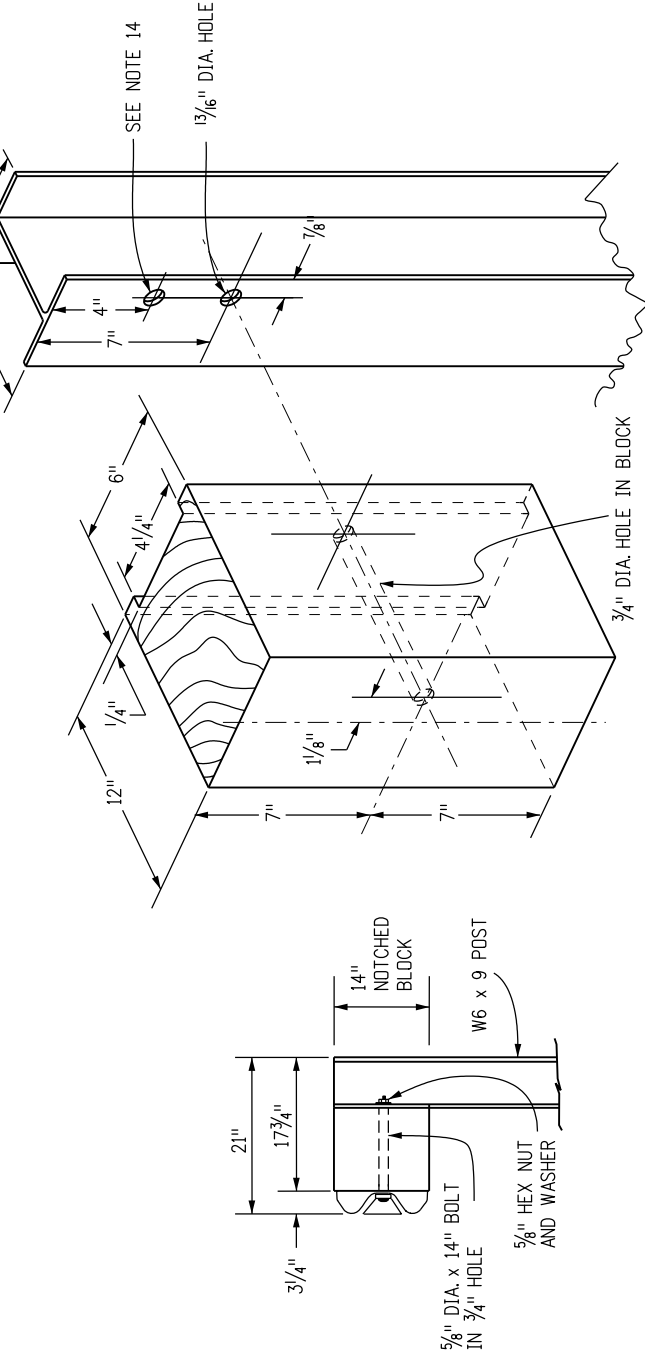
GENERAL NOTES (CONTINUED FROM SHEET 1)

11. WHEN SPECIFIED IN THE CONTRACT, 7 FT. POSTS SHALL BE INSTALLED INSTEAD OF THE STANDARD 6 FT. POSTS. THE 7 FT. POSTS SHALL BE MARKED WITH THE NUMBER 7 TO ENSURE PERMANENT IDENTIFICATION. STEEL POSTS SHALL BE STAMPED PRIOR TO GALVANIZING. THE NUMBER 7 SHALL BE A MINIMUM 2 IN. TALL AND LOCATED AS SHOWN ON THE ELEVATION VIEW ON SHEET 1.
12. THE STANDARD 3 IN. X 1 3/4 IN. X 3/8 IN. RECTANGULAR WASHER USED UNDER POST BOLT HEADS IN THE PAST MAY REMAIN IN EXISTING INSTALLATIONS BUT SHALL NOT BE USED IN NEW CONSTRUCTION, REPAIRS, OR RESETTling OF RAIL, EXCEPT WHEN SPECIFICALLY IDENTIFIED ON THE STANDARD PLAN.
13. STANDARD GALVANIZED ROUND STEEL WASHERS SHALL BE USED UNDER ALL NUTS IN CONTACT WITH WOOD POSTS.
14. AN ADDITIONAL HOLE SHALL BE PROVIDED IN THE POSTS TO FACILITATE FUTURE RAISING OF THE RAIL ELEMENTS AND BLOCKS FOR OVERLAYS.
15. RETROREFLECTOR TABS SHALL BE INSTALLED AT 25 FT. INTERVALS (SEE SHEETS 6 AND 8 FOR EXCEPTIONS). RETROREFLECTOR TABS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK. THE TABS SHALL BE MOUNTED SO THE BOLT SLOT FACES AWAY FROM TRAFFIC, AND THE RETROREFLECTOR SURFACE FACES THE APPROACHING TRAFFIC FOR ONE-WAY ROADS. FOR TWO-WAY ROADS, BOTH SIDES OF THE TABS SHALL BE RETROREFLECTIVE, SO THAT DELINEATION IS PROVIDED FOR BOTH DIRECTIONS OF TRAVEL. THE RETROREFLECTIVE SHEETING COLOR SHALL MATCH THE COLOR OF THE ADJACENT TRAVEL WAY EDGE LINE. SEE THE RETROREFLECTOR TAB DETAIL ON SHEET 3.
16. AT THE TIME OF INSTALLATION, WOOD POSTS OR BLOCKS WITH SEASONING CHECKS GREATER THAN 1/4 IN. SHALL NOT BE USED WHEN THE CHECK EXTENDS THE FULL LENGTH OF THE PIECE.
17. WOOD BLOCKS SHALL BE CUT FROM THE SAME CROSS-SECTION, SPECIES, AND GRADE, AND SHALL RECEIVE THE SAME PRESERVATIVE TREATMENT AS THE POSTS WHEN WOOD POSTS ARE USED.
18. REFERENCES SUCH AS 00PDB01, 00PDE01, AND 00PWE01 IN THIS STANDARD PLAN SPECIFY HARDWARE DETAILS FROM 00A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE PREPARED BY THE AASHTO-AGC-ARTBA JOINT COOPERATIVE COMMITTEE.
19. NOTCHED RAIL BLOCKS MANUFACTURED FROM SYNTHETIC MATERIAL WILL BE ACCEPTED AS ALTERNATIVES TO WOOD NOTCHED BLOCKS FOR USE WITH STEEL POSTS PROVIDED THAT THE BLOCKS HAVE RECEIVED FHWA APPROVAL AND ARE CERTIFIED AS IDENTICAL TO THE SPECIMENS USED FOR TESTING AND APPROVAL.
20. WOOD POSTS SHALL BE MADE OF TIMBER WITH AN EXTREME FIBER STRESS IN BENDING OF 1200 PSI STRESS GRADING AND POST DIMENSIONS SHALL CONFORM WITH THE RULES OF THE WEST COAST INSPECTION BUREAU OR THE SOUTHERN PINE BUREAU, OR THE WESTERN WOOD PRODUCTS ASSOCIATION. TIMBER FOR POSTS SHALL BE EITHER ROUGH SAWN (UNPLANED) OR S4S (SURFACED FOUR SIDES) WITH NOMINAL DIMENSIONS INDICATED. ONLY ONE TYPE OF SURFACE FINISH SHALL BE USED FOR POSTS AND BLOCKS IN ANY ONE CONTINUOUS LENGTH OF GUARDRAIL.
21. GLULAM POSTS AND BLOCKS WILL BE ACCEPTED AS ALTERNATIVES PROVIDED THAT THE SUPPLIED MATERIALS HAVE RECEIVED FHWA APPROVAL AND ARE CERTIFIED AS IDENTICAL TO THE SPECIMENS USED FOR TESTING AND APPROVAL.
22. PRESSURE TREATMENT OF POSTS AND BLOCKS SHALL CONFORM TO AASHTO M 133 EXCEPT THAT BLOCKS NEED NOT BE INCISED. PRESERVATION ASSAY RETENTION REPORTS SHALL BE SUBMITTED TO THE ENGINEER. THE CONTRACTOR SHALL CERTIFY THAT THE SPECIES AND GRADE MEET THE REQUIREMENTS OF THE CONTRACT.
23. W-BEAM AND THREE-BEAM GUARDRAIL POSTS SHALL BE MANUFACTURED USING AASHTO M 270 (ASTM A 709) GRADE 36 STEEL UNLESS CORROSION RESISTANT STEEL IS REQUIRED, IN WHICH CASE THE POST SHALL BE MANUFACTURED FROM AASHTO M 270 (ASTM A 709) GRADE 50W STEEL. THE DIMENSIONS OF THE CROSS-SECTION SHALL CONFORM TO A W6 X 9 SECTION AS DEFINED IN AASHTO M 160 (ASTM A 6) W6 X 8.5 WIDE FLANGE STEEL POSTS ARE AN ACCEPTABLE ALTERNATIVE TO THE W6 X 9.
24. AFTER THE SECTION IS CUT AND ALL HOLES ARE DRILLED OR PUNCHED THE COMPONENT SHALL BE ZINC-COATED CONFORMING TO AASHTO M 111 (ASTM A 123) UNLESS CORROSION-RESISTANT STEEL IS USED. WHEN CORROSION-RESISTANT STEEL IS USED THE PORTION OF THE POST TO BE EMBEDDED IN SOIL SHALL BE ZINC-COATED CONFORMING TO AASHTO M 111 (ASTM A 123) AND THE PORTION ABOVE THE SOIL SHALL NOT BE ZINC-COATED, PAINTED OR OTHERWISE TREATED.
25. FIELD MODIFICATION TO RAIL ELEMENTS ONLY IS ALLOWED BY SAWING AND DRILLING OF HOLES. FLAME CUTTING IS NOT PERMITTED. POSTS SHALL NOT BE MODIFIED. COMPONENTS ON WHICH THE SPLICER COATING HAS BEEN DAMAGED SHALL BE EITHER GALVANIZED OR RECOATED IN CONFORMANCE WITH AASHTO M 36, OR PAINTED WITH ONE FULL BRUSH COAT OF ZINC RICH PAINT CONFORMING TO MILITARY SPECIFICATION DDD-P-21035A.

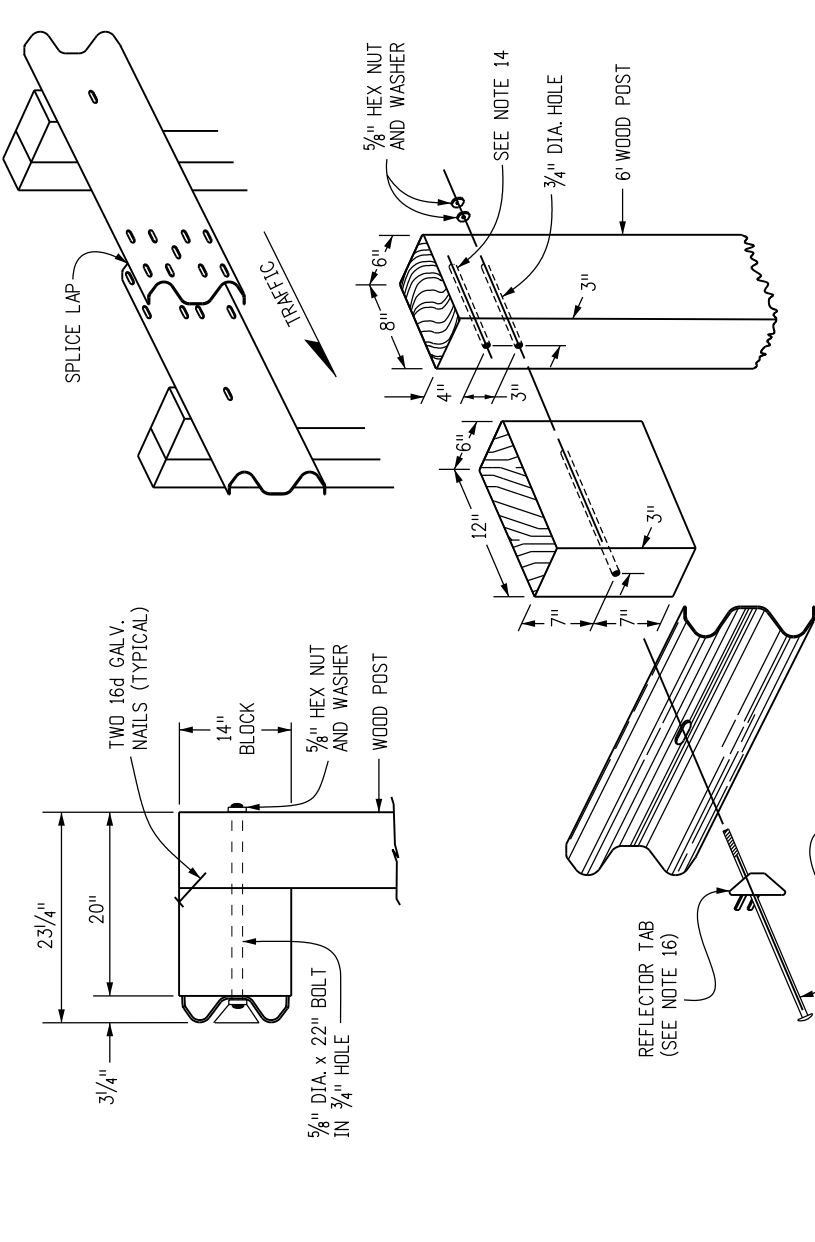


(PDB01 & PDE01)

WOOD POST & BLOCK
(NOMINAL DIMENSIONS ARE SHOWN FOR THE POSTS & BLOCKS)



STEEL POST & NOTCHED BLOCK
(NOMINAL DIMENSIONS ARE SHOWN FOR THE POSTS & BLOCKS)



DOUBLE BLOCK AND RAIL MEDIAN BARRIER GUARDRAIL TYPE 3 (DOUBLE)

Computer File Information		Sheet Revisions	
Creation Date: 08/19/15	Initials: DLM	Date:	Comments
Last Modification Date: 12/29/15	Initials: LTA	12/29/15	Raised guardrail height to 31". Increased offset blocks to 12". Renumbered Gen Notes.
Full Path: www.codot.gov/business/designsupport		(R-X)	
Drawing File Name: 6060102020.dgn		(R-X)	
CAD Ver.: MicroStation V8	Scale: Not to Scale	(R-X)	

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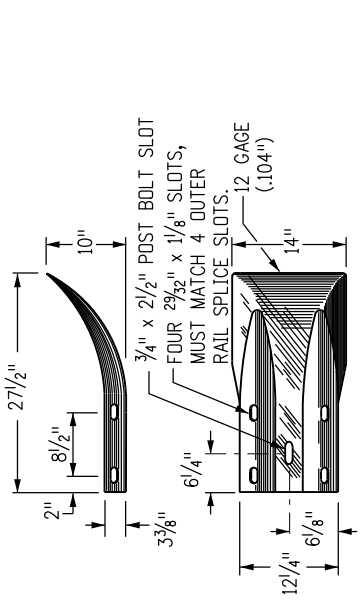
Division of Project Support **DLM/LTA**

MIDWEST
GUARDRAIL SYSTEM (MGS)
TYPE 3 W-BEAM 31 INCHES

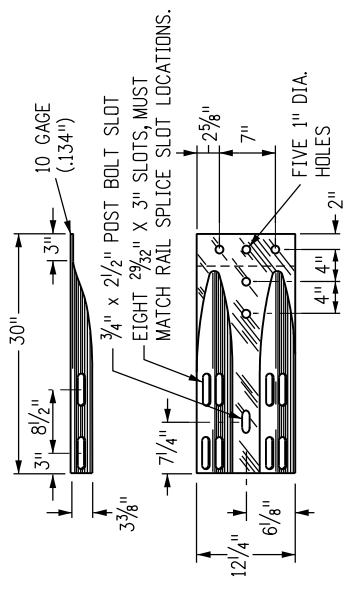
Issued By: Project Development Branch July 4, 2012

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M-606-1

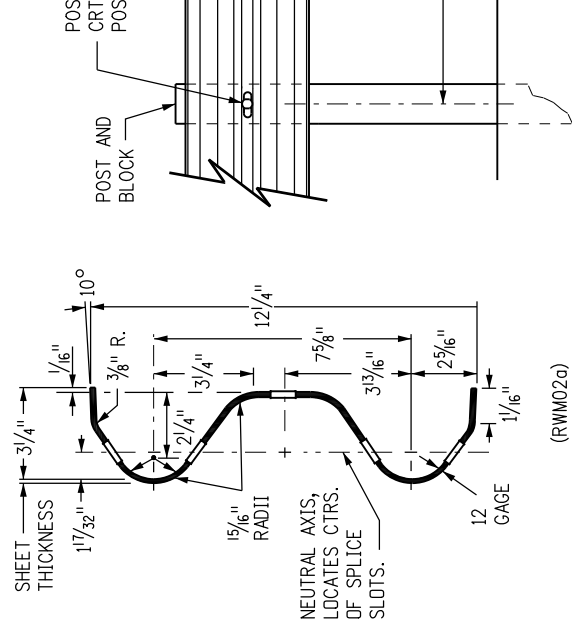
Sheet No. 2 of 20 **42**



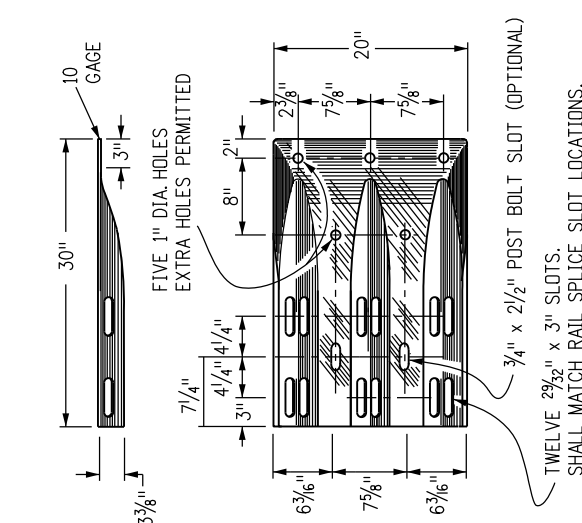
TERMINAL SECTION (FLARED)
(RWE01a)



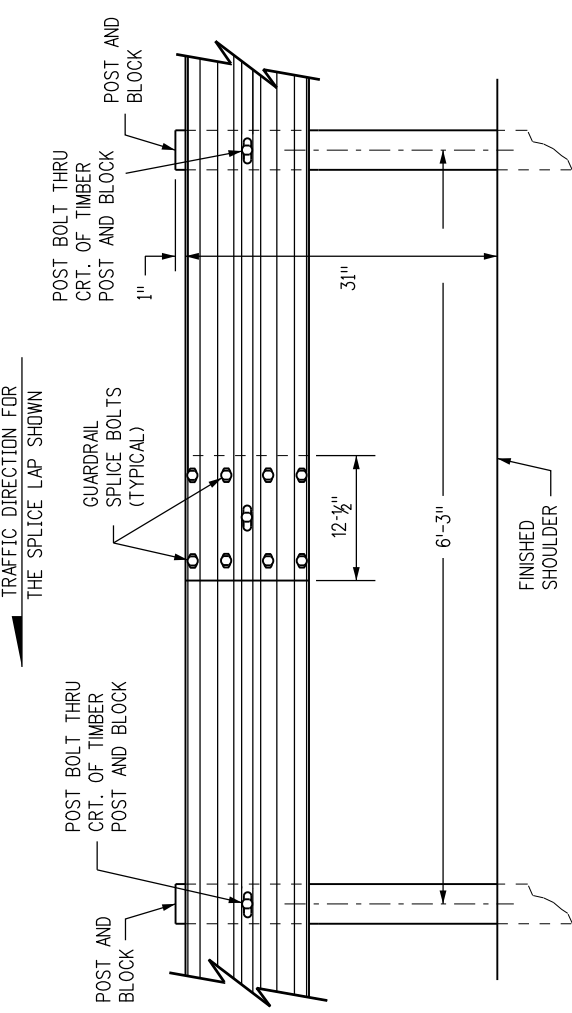
TERMINAL SECTION (CONNECTOR)



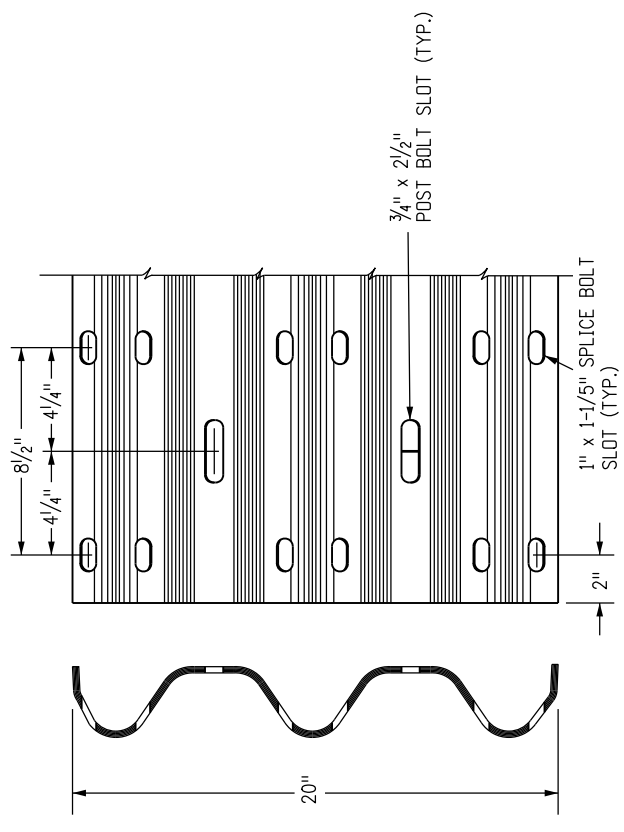
W-BEAM RAIL SECTION
(RWM02a)



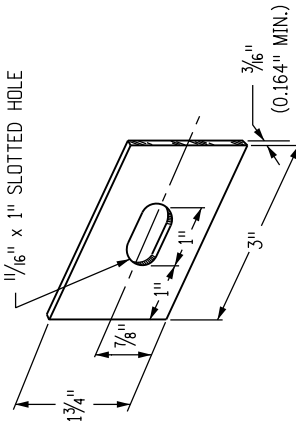
**THRIE BEAM
TERMINAL SECTION (CONNECTOR)**



W-BEAM RAIL SPLICE



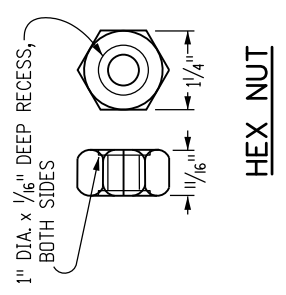
**THRIE BEAM
DETAIL**



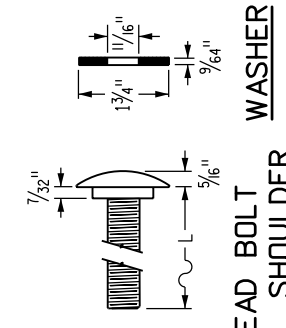
RECTANGULAR WASHER
(TO BE USED ONLY WHERE SPECIFIED.)
(FWR03)

PART	MATERIAL SPEC.	GALVANIZING SPEC.	CORROSION-RESISTANT SPEC.
W-BEAM RAIL & TERMINAL SECTIONS	AASHTO M 180, CLASS A OR B	AASHTO M 180, TYPE 1 OR 2	AASHTO M 180, TYPE 4
BASE PLATE	ASTM A 36	AASHTO M 111	N.A.
NUTS, BOLTS & STUDS FOR GENERAL USE	ASTM A 307	AASHTO M 232, CLASS C	
HIGH STRENGTH BOLTS & NUTS	ASTM A 325		OR
HIGH STRENGTH STUDS & NUTS	ASTM A 449		ASTM B 695 CLASS 50 TYPE 1
ROUND STEEL WASHERS	ASTM F 436		
RECTANGULAR WASHERS	AASHTO M 180		
OTHER FITTINGS	ASTM A 36	AASHTO M 111	

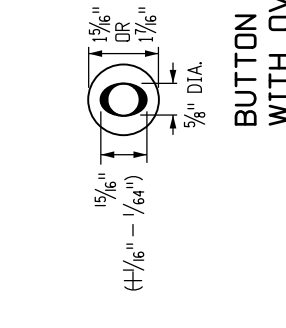
THE TABULATION OF GUARDRAIL WILL SPECIFY THE TYPE OF CORROSION PROTECTION: GALVANIZED OR CORROSION - RESISTANT STEEL.
STEEL POSTS SHALL HAVE THE SAME CORROSION PROTECTION AS SPECIFIED FOR THE METAL BEAM RAIL. PUNCHING, DRILLING, CUTTING, OR WELDING OF POSTS WILL NOT BE PERMITTED AFTER GALVANIZING.



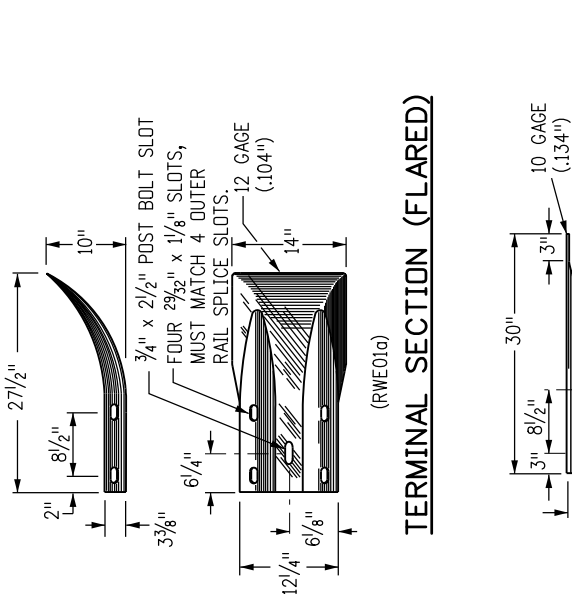
HEX NUT



WASHER



**BUTTON HEAD BOLT
WITH OVAL SHOULDER**



RETROREFLECTOR TAB

RETROREFLECTOR TABS SHALL BE MANUFACTURED FROM 12 TO 14 GAUGE STEEL. RETROREFLECTIVE SHEETING SHALL CONFORM TO ASTM D4956 TYPE III. SEE NOTE 5 ON SHEET 5.

DIAMETER & TYPE (INCHES)	12" BLOCKS L = LENGTH (INCHES)	THREAD LENGTH (INCHES)	INTENDED USE	AASHTO-AGC-ARTBA STANDARD NUMBER	NO. BOLTS, NUTS & WASHERS
5/8"	1 1/4"	FULL (1 1/32)	ALL RAIL SPLICES	FBB01	8 PER SPLICE*
BUTTONHEAD	22	MIN. 2 1/2	SINGLE BLOCK & POST (TIMBER)	FBB04	1 PER POST
OVAL SHLDR.	33	MIN. 2	DOUBLE BLOCK & POST (TIMBER)	FBB05	1 PER POST
	14	MIN. 2	FASTEN NOTCHED BLOCK TO STEEL POST	FBB03	1 PER BLOCK

WASHERS NOT USED AT RAIL SPLICES

Computer File Information	
Creation Date: 08/19/15	Initials: DLM
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Full Path: www.codot.gov/business/designsupport	
Drawing File Name: 6060103020.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions	
Date:	Comments
12/29/15	Raised guardrail heights to 3' and changed splice to between posts.
(R-X)	
(R-X)	
(R-X)	

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Denver, CO 80222
Phone: 303-757-9021 FAX: 303-757-9868

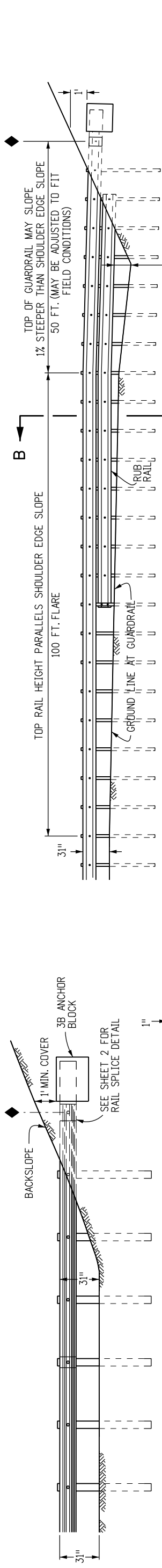
Division of Project Support **DLM/LTA**

MIDWEST
GUARDRAIL SYSTEM (MGS)
TYPE 3 W-BEAM 31 INCHES

STANDARD PLAN NO.
M-606-1

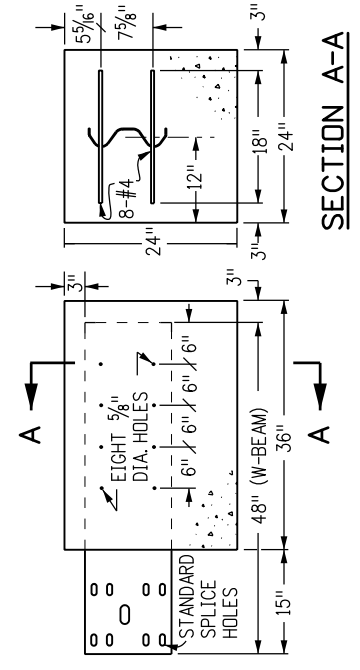
Sheet No. 3 of 20 **43**

Issued By: Project Development Branch July 4, 2012

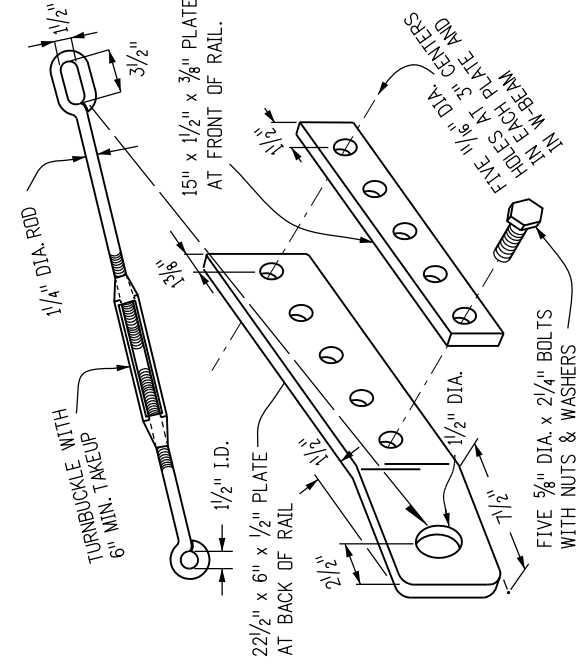


SEE TYPE 3B (RUB RAIL) PLAN VIEW FOR ALIGNMENT. THE 100 FT. FLARE LENGTH MAY BE SHORTENED IF THE SLOPE IS LESS THAN 8 FT. WIDE.

END ANCHORAGE TYPE 3B
(WITHOUT ROADSIDE DITCH AT GUARDRAIL)

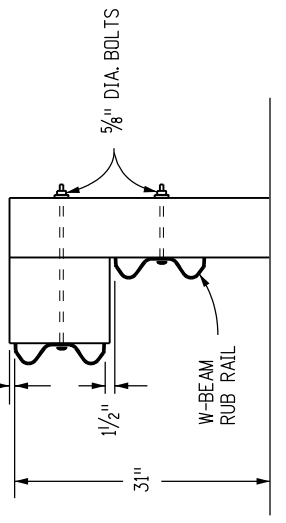


TYPE 3B ANCHOR BLOCK DETAIL



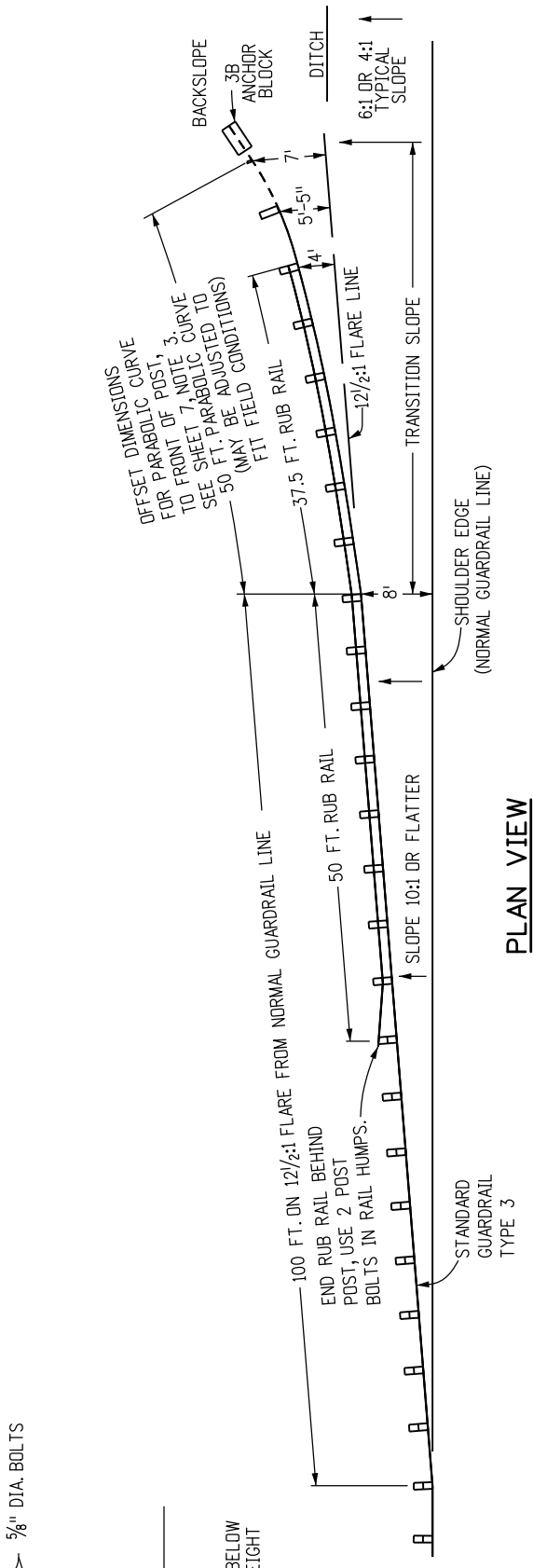
TYPE 3D HARDWARE DETAILS

NOTE: ALL PARTS SHALL BE GALVANIZED



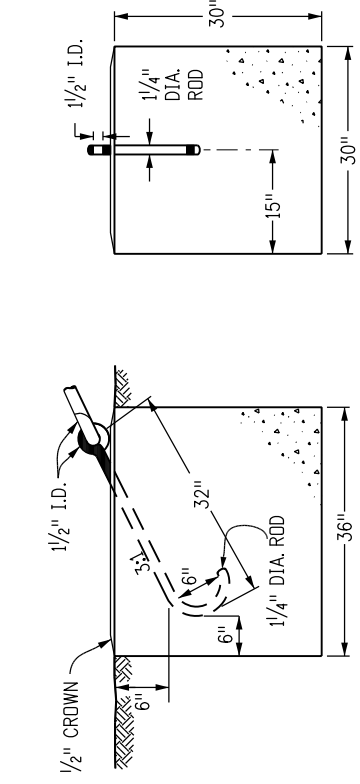
SECTION B-B
MOUNT A W-BEAM RUB RAIL 1-1/2 IN. BELOW THE TOP RAIL WHEN THE TOP RAIL HEIGHT EXCEEDS 33 IN. ABOVE THE GROUND

ELEVATION VIEW



END ANCHORAGE TYPE 3B (RUB RAIL)
(WITH ROADSIDE DITCH AT GUARDRAIL)

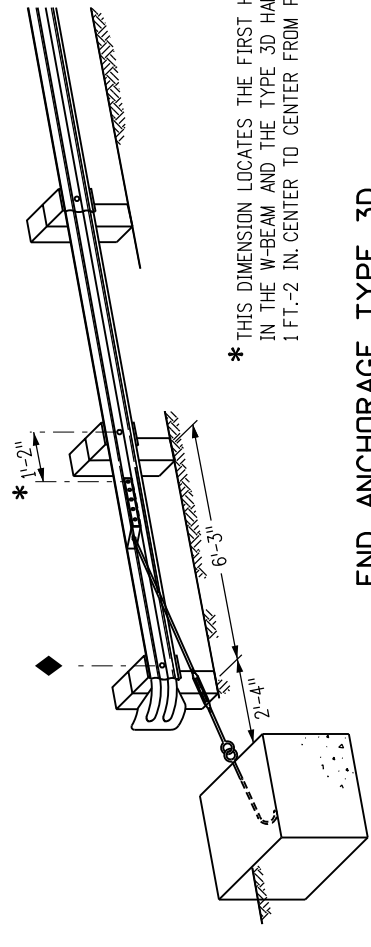
◆ END OF GUARDRAIL PAY LENGTH



END

FRONT

TYPE 3D ANCHOR BLOCK DETAIL



END ANCHORAGE TYPE 3D DEPARTURE TERMINAL

* THIS DIMENSION LOCATES THE FIRST HOLE IN THE W-BEAM AND THE TYPE 3D HARDWARE. 1 FT.-2 IN. CENTER TO CENTER FROM POST BOLT HOLE.

Computer File Information	
Creation Date: 08/19/15	Initials: DLM
Last Modification Date: 12/29/15	Initials: LTA
Full Path: www.codot.gov/business/designsupport	
Drawing File Name: 6060104020.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

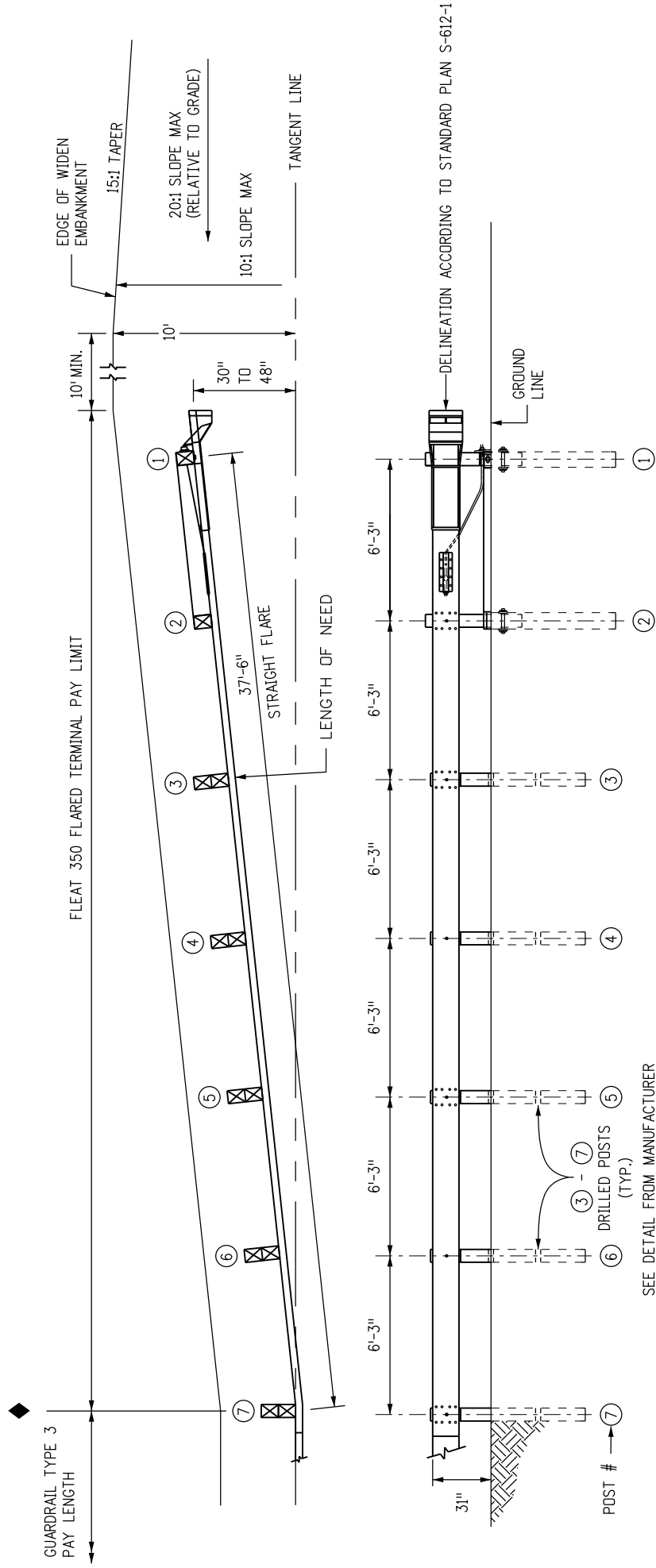
Sheet Revisions	
Date:	Comments
12/29/15	Raised guardrail height to 31"
(R-X)	
(R-X)	
(R-X)	

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MIDWEST
 GUARDRAIL SYSTEM (MGs)
 TYPE 3 W-BEAM 31 INCHES
 Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
 M-606-1
 Sheet No. 4 of 20 44

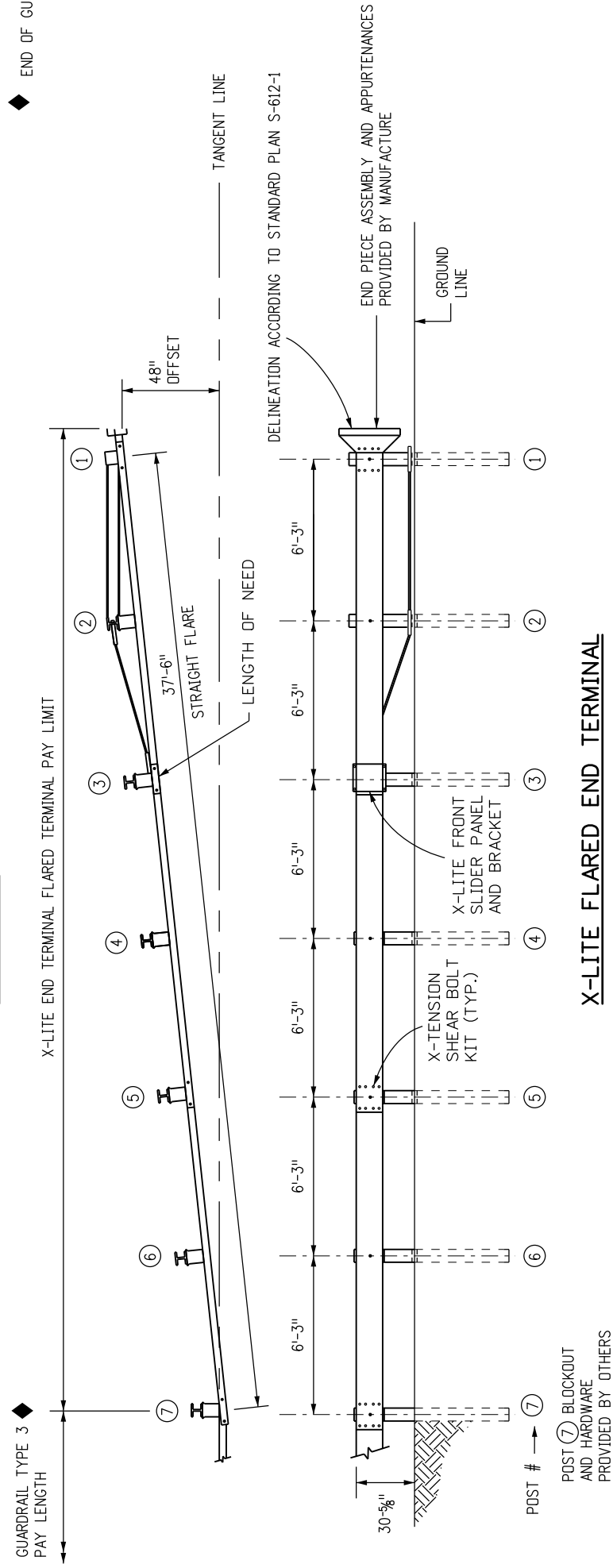
SEE M-606-1, SHEET 5 OF 20, FOR "NOTES".



FLEAT 350

SEE DETAIL FROM MANUFACTURER

◆ END OF GUARDRAIL PAY LENGTH

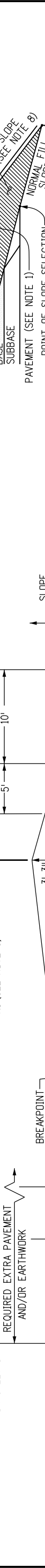
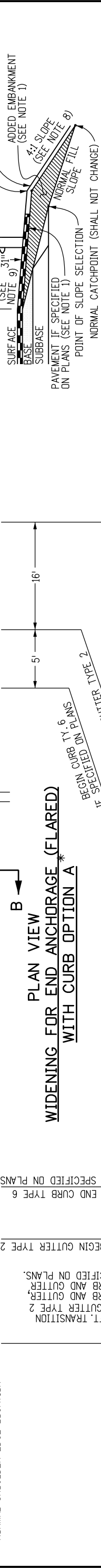
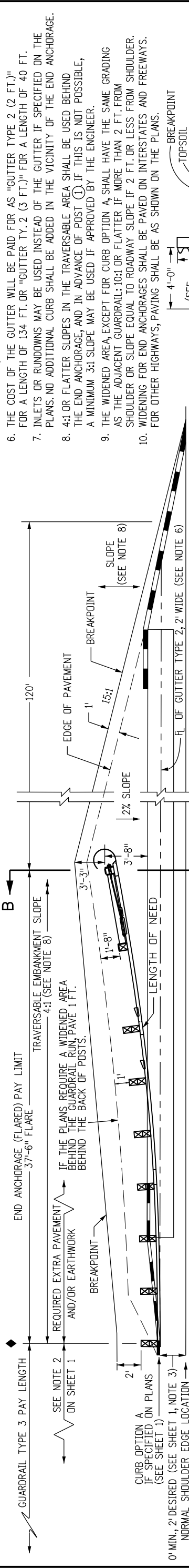
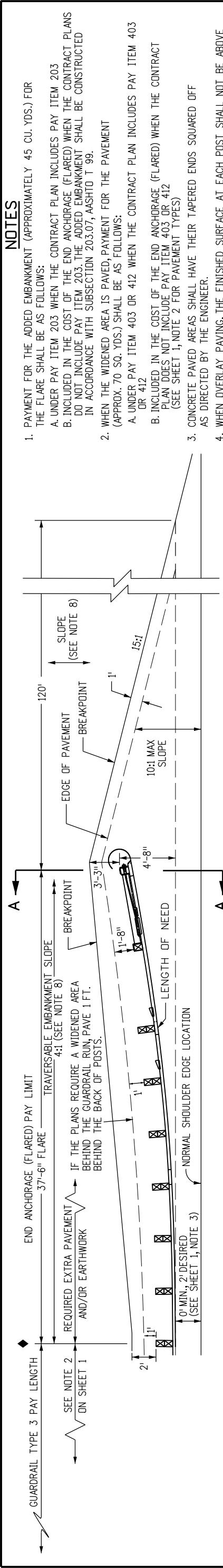


X-LITE FLARED END TERMINAL

POST (7) BLOCKOUT AND HARDWARE PROVIDED BY OTHERS

END ANCHORAGES (FLARED)

Computer File Information		Sheet Revisions		Colorado Department of Transportation		MIDWEST		STANDARD PLAN NO.	
Creation Date: 08/19/15	Initials: DLM	Date:	Comments	4201 East Arkansas Avenue		GUARDRAIL SYSTEM (MGs)		M-606-1	
Last Modification Date: 12/29/15	Initials: LTA	12/29/15	Raised End Anchorages to 31"	CDOT HQ, 4th Floor		TYPE 3 W-BEAM 31 INCHES		Sheet No. 6 of 20	
Full Path: www.codot.gov/business/designsupport				Denver, CO 80222		Issued By: Project Development Branch		July 4, 2012	
Drawing File Name: 6060106020.dgn				Phone: 303-757-9021 FAX: 303-757-9868		DLM/LTA			
CAD Ver.: MicroStation V8	Scale: Not to Scale	Units: English		Division of Project Support					



- NOTES**
- PAYMENT FOR THE ADDED EMBANKMENT (APPROXIMATELY 45 CU. YDS.) FOR THE FLARE SHALL BE AS FOLLOWS:
 - UNDER PAY ITEM 203 WHEN THE CONTRACT PLAN INCLUDES PAY ITEM 203
 - INCLUDED IN THE COST OF THE END ANCHORAGE (FLARED) WHEN THE CONTRACT PLANS DO NOT INCLUDE PAY ITEM 203. THE ADDED EMBANKMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUBSECTION 203.07, AASHTO T 99.
 - WHEN THE WIDENED AREA IS PAVED, PAYMENT FOR THE PAVEMENT (APPROX. 70 SQ. YDS.) SHALL BE AS FOLLOWS:
 - UNDER PAY ITEM 403 OR 412 WHEN THE CONTRACT PLAN INCLUDES PAY ITEM 403 OR 412
 - INCLUDED IN THE COST OF THE END ANCHORAGE (FLARED) WHEN THE CONTRACT PLAN DOES NOT INCLUDE PAY ITEM 403 OR 412 (SEE SHEET 1, NOTE 2 FOR PAVEMENT TYPES)
 - CONCRETE PAVED AREAS SHALL HAVE THEIR TAPERED ENDS SQUARED OFF AS DIRECTED BY THE ENGINEER.
 - WHEN OVERLAY PAVING, THE FINISHED SURFACE AT EACH POST SHALL NOT BE ABOVE THE TOP BREAKAWAY HOLE OR STRUT ASSEMBLY. THE WIDENED AREA AT THE FLARED END ANCHORAGE SHOULD NOT BE OVERLAYED UNLESS PAVEMENT CONDITIONS WARRANT IT BEING OVERLAYED. ANY OVERLAY PAVEMENT ABUTTING THE FLARED END ANCHORAGE SHALL BE TAPERED TO PREVENT A DROP IN THE PAVED SURFACE BELOW THE RAIL.
 - SEE SHEETS 1, 3 AND 4 FOR STANDARD TYPE 3 GUARDRAIL AND INSTALLATION DETAILS.
 - THE COST OF THE GUTTER WILL BE PAID FOR AS "GUTTER TYPE 2 (2 FT.)" FOR A LENGTH OF 134 FT. OR "GUTTER TY. 2 (3 FT.)" FOR A LENGTH OF 40 FT.
 - INLETS OR RUNDOWNS MAY BE USED INSTEAD OF THE GUTTER IF SPECIFIED ON THE PLANS. NO ADDITIONAL CURB SHALL BE ADDED IN THE VICINITY OF THE END ANCHORAGE.
 - 4:1 OR FLATTER SLOPES IN THE TRAVERSABLE AREA SHALL BE USED BEHIND THE END ANCHORAGE, AND IN ADVANCE OF POST (1) IF THIS IS NOT POSSIBLE, A MINIMUM 3:1 SLOPE MAY BE USED IF APPROVED BY THE ENGINEER.
 - THE WIDENED AREA, EXCEPT FOR CURB OPTION A, SHALL HAVE THE SAME GRADING AS THE ADJACENT GUARDRAIL: 10:1 OR FLATTER IF MORE THAN 2 FT. FROM SHOULDER OR SLOPE EQUAL TO ROADWAY SLOPE IF 2 FT. OR LESS FROM SHOULDER.
 - WIDENING FOR END ANCHORAGES SHALL BE PAVED ON INTERSTATES AND FREEWAYS. FOR OTHER HIGHWAYS, PAVING SHALL BE AS SHOWN ON THE PLANS.

* THIS PLAN VIEW SHOWS ONLY THE SRT-31. THE FLEAT-350 USES THE SAME WIDENING DETAILS.

WIDENING FOR END ANCHORAGE (FLARED)

WIDENING FOR END ANCHORAGE (FLARED) WITH CURB OPTION A

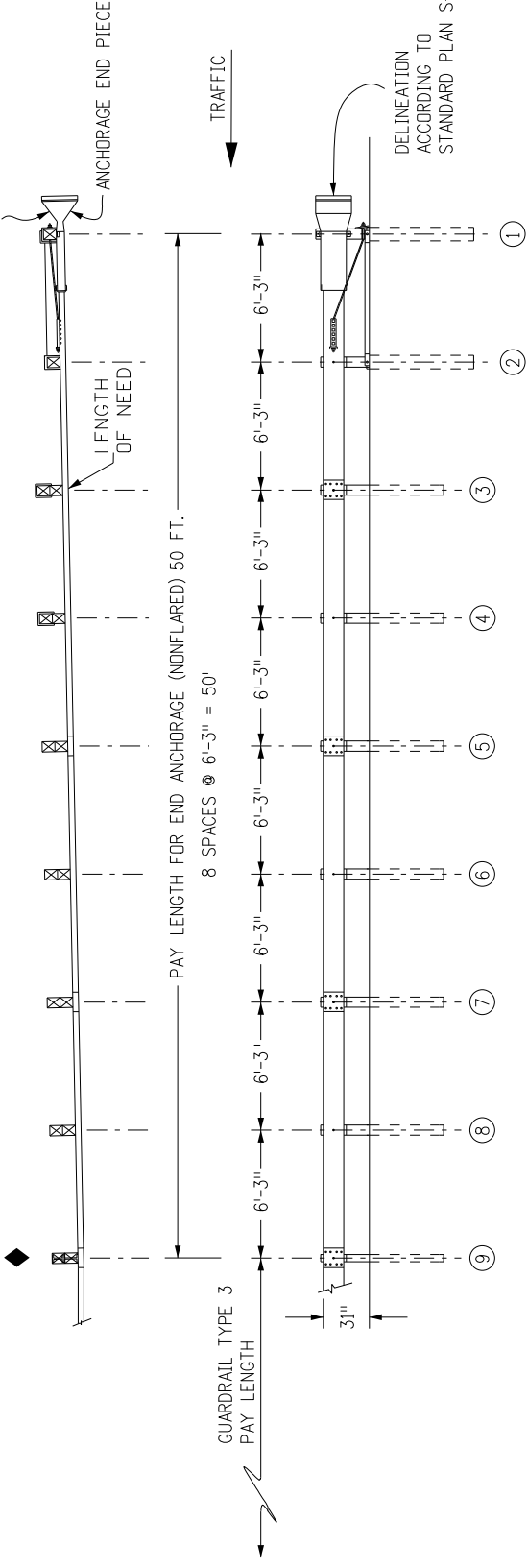
WIDENING FOR END ANCHORAGE (FLARED) WITH CURB OPTION B

Computer File Information		Sheet Revisions		Colorado Department of Transportation		MIDWEST		STANDARD PLAN NO.	
Creation Date: 08/19/15	Initials: DLM	Date:	Comments	4201 East Arkansas Avenue	CDOT HQ, 4th Floor		GUARDRAIL SYSTEM (MGS)		M-606-1
Last Modification Date: 12/29/15	Initials: LTA	12/29/15	Raised guardrail height to .31"	Denver, CO 80222	Phone: 303-757-9021		TYPE 3 W-BEAM 31 INCHES		
Full Path: www.codot.gov/business/designsupport					FAX: 303-757-9868		Issued By: Project Development Branch July 4, 2012		Sheet No. 7 of 20 47
Drawing File Name: 6060107020.dgn					Division of Project Support		DLM/LTA		
CAD Ver.: MicroStation V8	Scale: Not to Scale	Units: English							

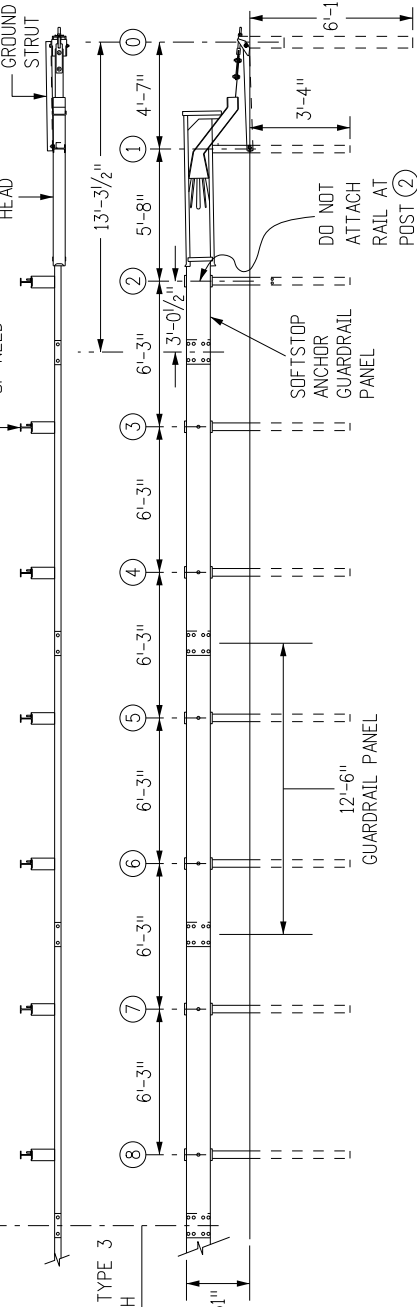
NOTES FOR NONFLARED

1. THE END ANCHORAGE (NONFLARED) SHALL EITHER BE THE SKT GUARDRAIL AS MANUFACTURED BY ROAD SYSTEMS, INC. (TEL. #: 432-263-2435), OR THE X-LITE AS MANUFACTURED BY BARRIER SYSTEMS, INC. (TEL. #: 888-800-3691), OR THE SOFTSTOP AS MANUFACTURED BY TRINITY INDUSTRIES, INC. (TEL. #: 800-772-7976). THE END ANCHORAGE (NONFLARED) SHALL INCLUDE ALL POST, RAIL, AND HARDWARE ITEMS REQUIRED FOR A COMPLETE UNIT. THE END ANCHORAGE (NONFLARED) SHALL BE INSTALLED CONFORMING TO THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL PROVIDE A COPY OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND PARTS LIST TO THE ENGINEER PRIOR TO THE INSTALLATION OF THE DEVICE.
2. WOOD POSTS SHALL BE DRILLED FOR BREAKAWAY CONFORMING TO THE MANUFACTURER'S INSTRUCTIONS.
3. HINGED BREAK AWAY (HBA) STEEL POSTS MAY BE USED CONFORMING TO THE MANUFACTURER'S INSTRUCTIONS.
4. RETROREFLECTOR TABS SHALL NOT BE USED ON THE LAST SEVEN POSTS OF THE END ANCHORAGE (NONFLARED).
5. USE THE MANUFACTURER'S SPECIFIED STEEL FOUNDATION TUBE FOR POSTS ① AND ② FOR SKT END ANCHORAGES (NONFLARED).
6. USE THE MANUFACTURER'S SUPPLIED POSTS FOR X-LITE END ANCHORAGE AS FOLLOWS:
 POST 1 - X-LITE, CRIMPED POST SLOTS, GALVANIZED.
 POST 2 - X-LITE, POST II, GALVANIZED.
 POST 3 - X-LITE, CRIMPED POST HOLES, GALVANIZED.
 FOR POSTS 4 THRU 8 - USE STANDARD LINE POST, GALVANIZED.
7. DELINEATION SHALL BE APPLIED TO THE END PIECE AND SHALL NOT BE PAID FOR SEPARATELY BUT BE INCLUDED IN THE COST OF THE WORK. SEE STANDARD PLAN S-612-1.

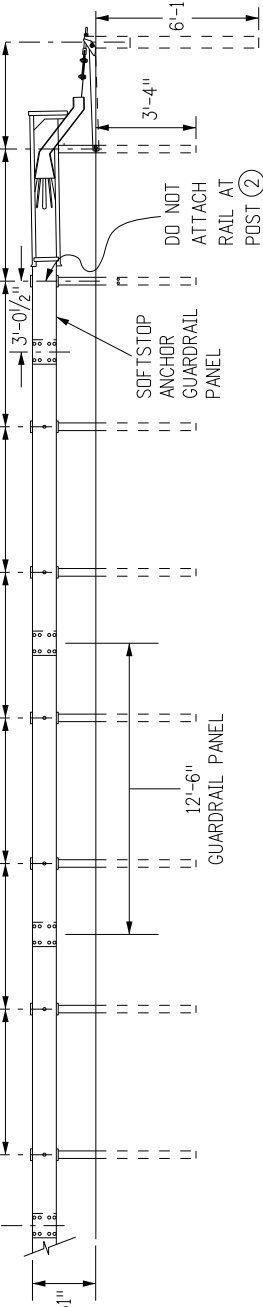
THE GUARDRAIL EXTRUDED BY THE END PIECE UPON IMPACT MUST BE AWAY FROM TRAFFIC



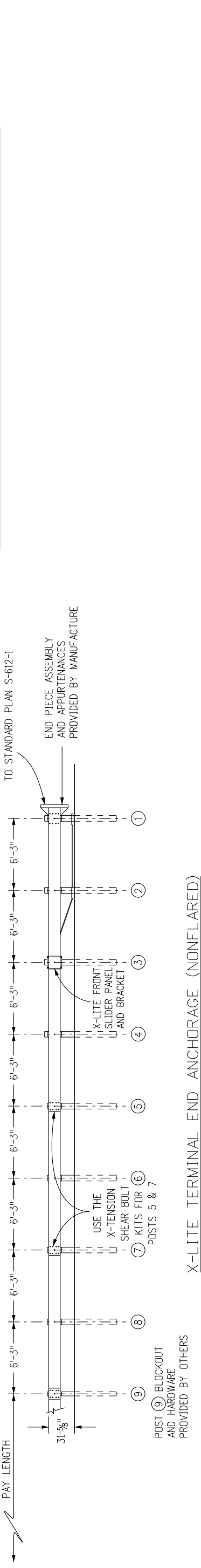
SKT END ANCHORAGE (NONFLARED)



SOFTSTOP TERMINAL END ANCHORAGE (NONFLARED)

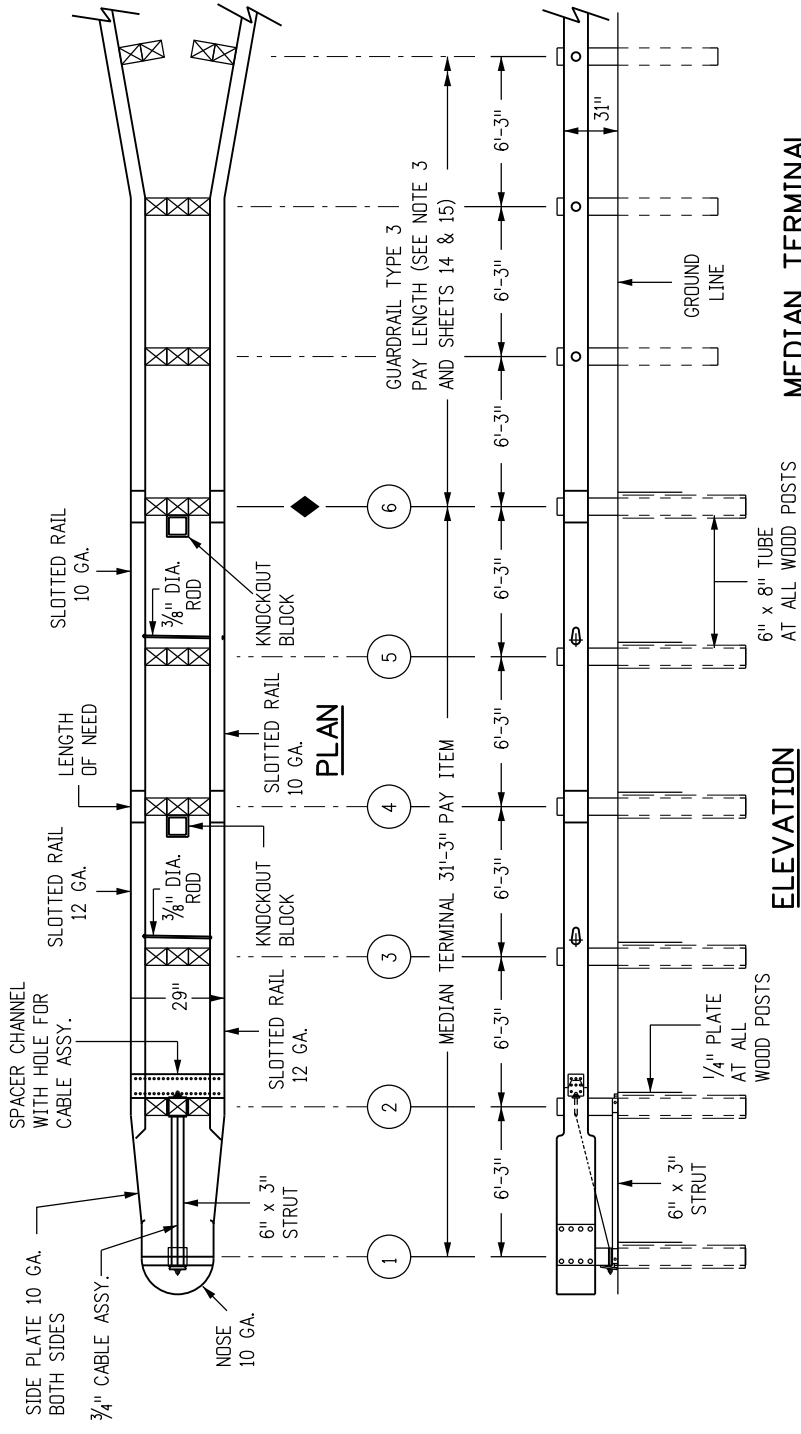


X-LITE TERMINAL END ANCHORAGE (NONFLARED)



END ANCHORAGES (NONFLARED)

Computer File Information		Sheet Revisions		MIDWEST		STANDARD PLAN NO.	
Creation Date: 08/19/15	Initials: DLM	Date:	Comments	GUARDRAIL SYSTEM (MGs)		M-606-1	
Last Modification Date: 12/29/15	Initials: LTA	12/29/15	Raised End Anchorages to 31"	TYPE 3 W-BEAM 31 INCHES		Sheet No. 8 of 20 48	
Full Path: www.codot.gov/business/designsupport				TYPE 3 W-BEAM 31 INCHES		Issued By: Project Development Branch July 4, 2012	
Drawing File Name: 60600108020.dgn				TYPE 3 W-BEAM 31 INCHES			
CAD Ver.: MicroStation V8	Scale: Not to Scale	Units: English		TYPE 3 W-BEAM 31 INCHES			
				Colorado Department of Transportation		Issued By: Project Development Branch July 4, 2012	
				4201 East Arkansas Avenue			
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				Denver, CO 80222			
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				Division of Project Support			
				DLM/LTA			



ELEVATION

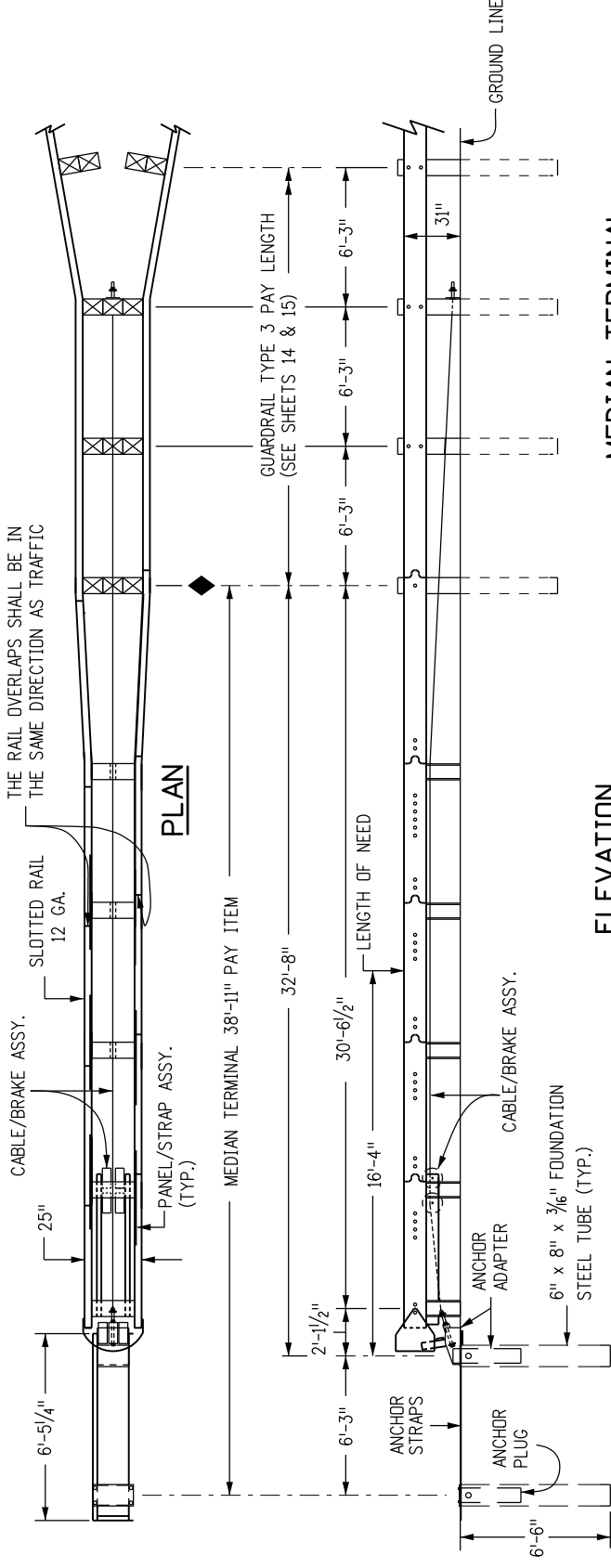
6" x 8" TUBE AT ALL WOOD POSTS

MEDIAN TERMINAL
(CAT OPTION)

◆ END OF GUARDRAIL PAY LENGTH

MEDIAN TERMINAL NOTES

1. THE MEDIAN TERMINAL SHALL BE THE CAT 350 AS MANUFACTURED BY TRINITY INDUSTRIES INC. (TEL #: 800-722-7976), OR THE BRAKEMASTER AS MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC. AS DISTRIBUTED BY INTEREST SAFETY SUPPLY (TEL #: 303-733-8447), OR THE FLEAT-MT MEDIAN TERMINAL AS MANUFACTURED BY ROAD SYSTEM INC. (TEL #: 432-263-2435).
2. ONE MEDIAN TERMINAL SHALL INCLUDE ALL POSTS, RAIL, AND HARDWARE ITEMS REQUIRED FOR A COMPLETE UNIT. THE DEVICE SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS. THE CONTRACTOR SHALL PROVIDE A COPY OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND PARTS LISTS TO THE ENGINEER PRIOR TO THE INSTALLATION OF THE DEVICE.
3. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE MEDIAN TERMINAL SHALL BE INSTALLED FOR BIDIRECTIONAL TRAFFIC APPLICATION.
4. MEDIAN GUARDRAIL POSTS MAY BE STEEL OR WOOD.
5. EACH INSTALLATION SHALL BE SUPERVISED AND CERTIFIED AS CORRECT UPON COMPLETION BY A REPRESENTATIVE OF THE DEVICE MANUFACTURER OR BY AN EMPLOYEE OF THE CONTRACTOR WHO IS A CERTIFIED INSTALLER. THE CERTIFIED INSTALLER SHALL HAVE COMPLETED DEVICE TRAINING AND SHALL BE REGISTERED WITH THE MANUFACTURER AS A CERTIFIED INSTALLER.
6. DELINEATION, IF REQUIRED, SHALL BE APPLIED TO THE END PIECE AND WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK. SEE STANDARD PLAN S-612-1.
7. IF THE MEDIAN TERMINAL IS LESS THAN 31 INCHES HIGH, A TRANSITIONAL PIECE SHALL BE INSTALLED TO REACH THE 31 INCHES MGS HEIGHT.



ELEVATION

MEDIAN TERMINAL
(BRAKEMASTER OPTION)

Computer File Information

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12/29/15	Raised guardrail height to 31".
(R-X)	
(R-X)	
(R-X)	

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Denver, CO 80222
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Division of Project Support

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MIDWEST

**GUARDRAIL SYSTEM (MGS)
TYPE 3 W-BEAM 31 INCHES**

Issued By: Project Development Branch July 4, 2012

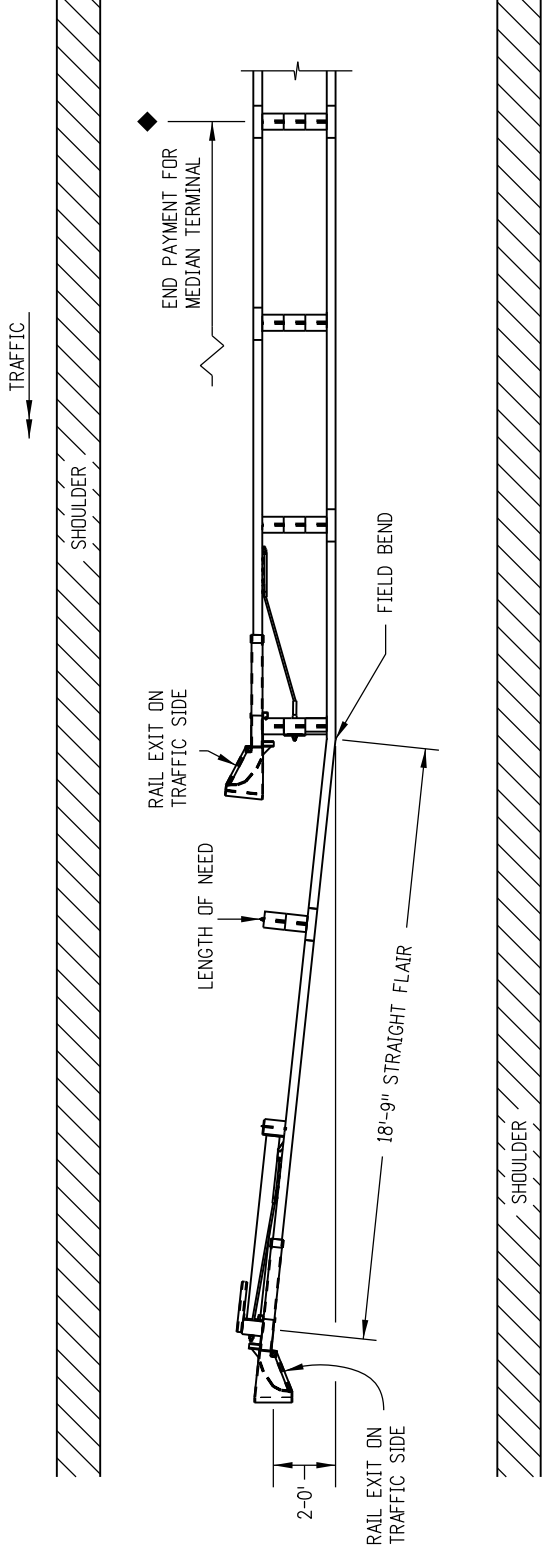
STANDARD PLAN NO.

M-606-1

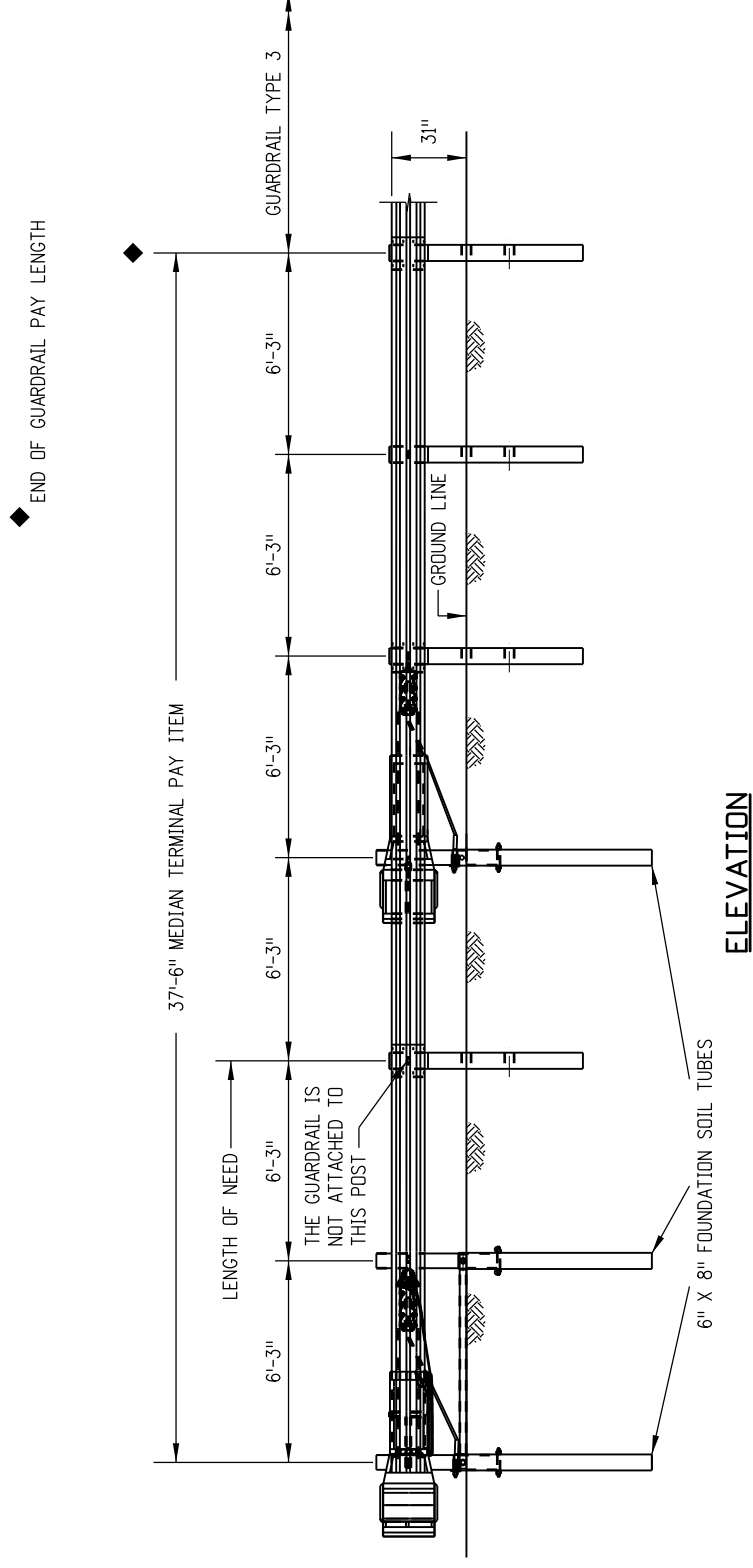
Sheet No. 10 of 20 50

FLEAT - MT NOTES

1. THE FLEAT-MT MAY BE SELECTED AS A MEDIAN TERMINAL UNLESS OTHERWISE SHOWN IN THE PLANS.
2. BREAKAWAY POSTS ARE REQUIRED WITH THE FLEAT-MT.
3. THE SOIL TUBES SHALL NOT PROTRUDE MORE THAN 4 INCHES ABOVE GROUND (MEASURED ALONG A 5 FEET CORD). SITE GRADING MAY BE NECESSARY TO MEET THIS REQUIREMENT.
4. THE SOIL TUBES SHALL BE DRIVEN WITH AN APPROVED DRIVING HEAD AND NOT BE DRIVEN WITH THE POST IN THE TUBE. IF THE TUBES ARE PLACED IN DRILLED HOLES, THE BACKFILL MATERIAL MUST BE SATISFACTORILY COMPACTED TO PREVENT SETTLEMENT.
5. WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE, 20 INCH DEEP MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROX. 2 1/2 INCH DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.
6. THE BREAKAWAY CABLE ASSEMBLY MUST BE TAUT. DO NOT TWIST THE CABLE WHEN TIGHTENING NUTS.



PLAN




ELEVATION

MEDIAN TERMINAL
(FLEAT-MT OPTION)

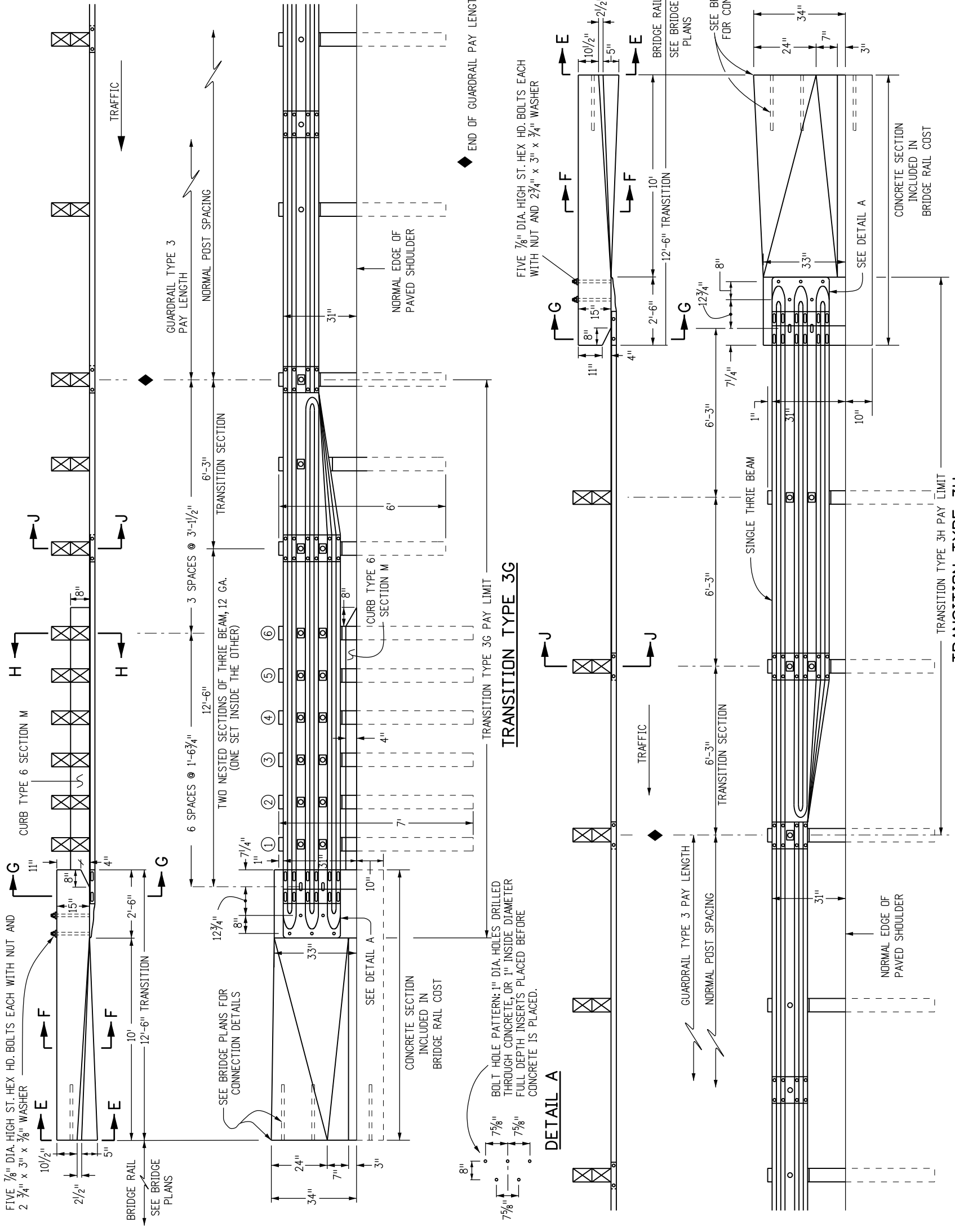
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Drawing File Name: 60601011020.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions	
Date:	Comments
12/29/15	Raised guardrail height to 31".
(R-X)	
(R-X)	
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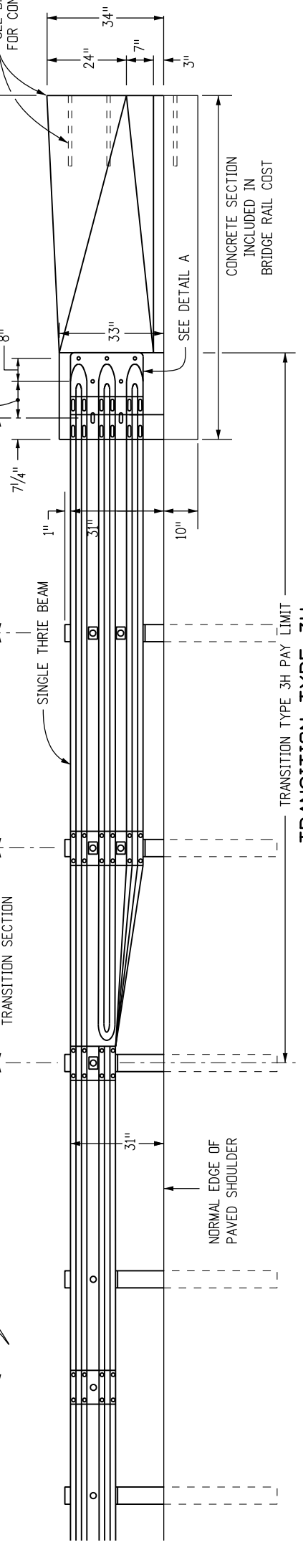
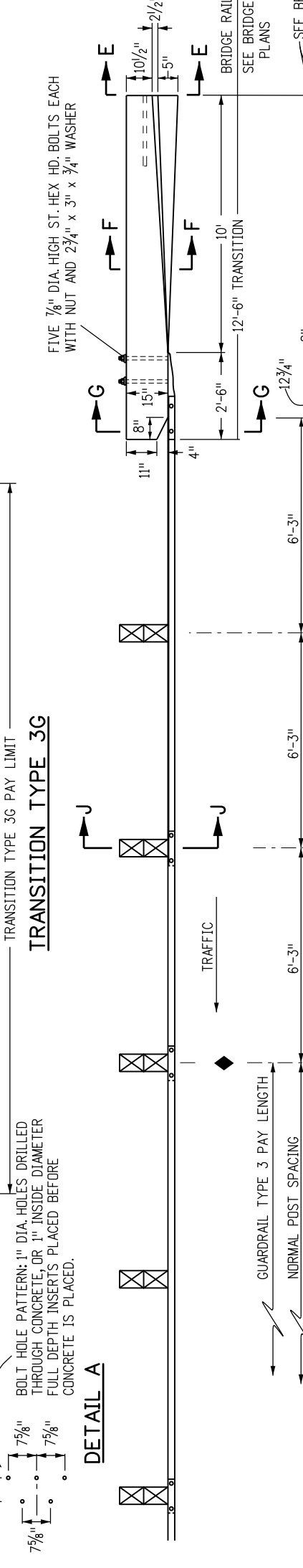
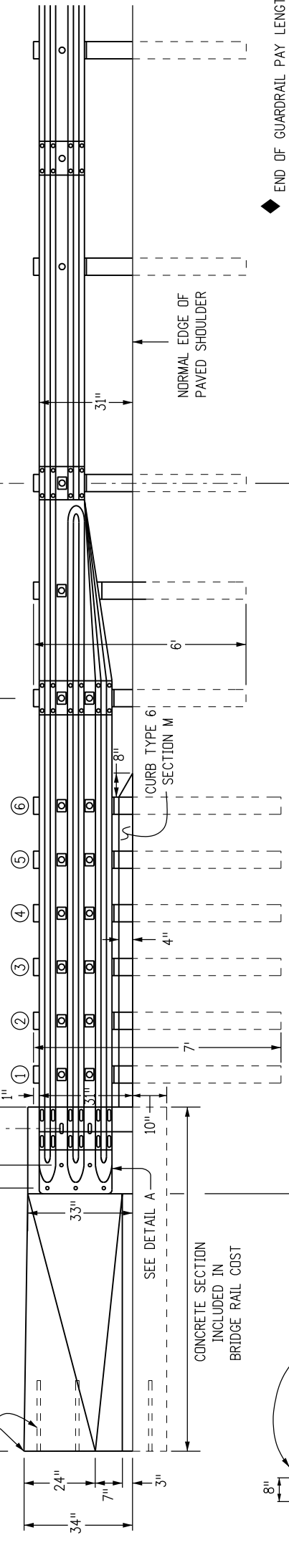
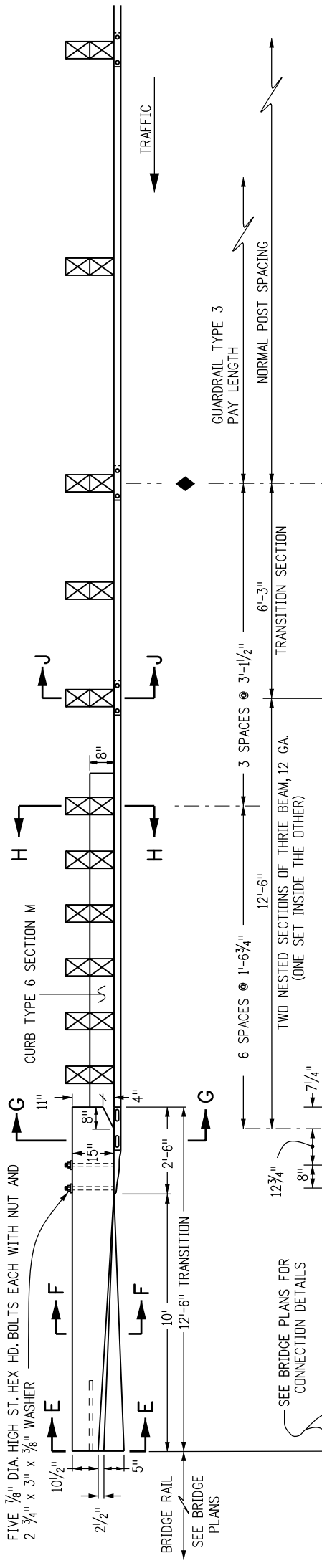
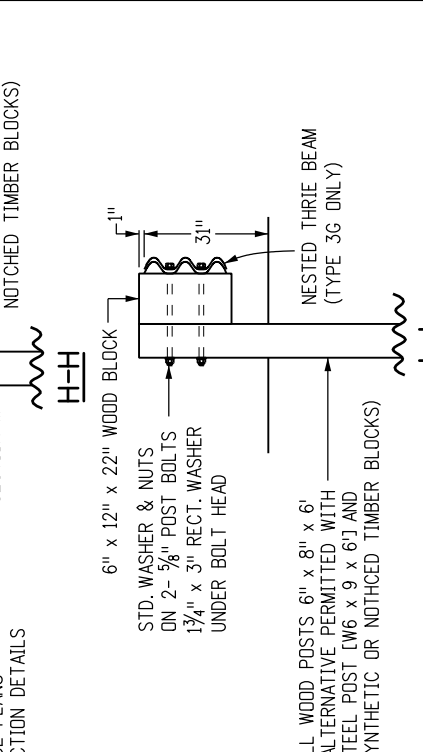
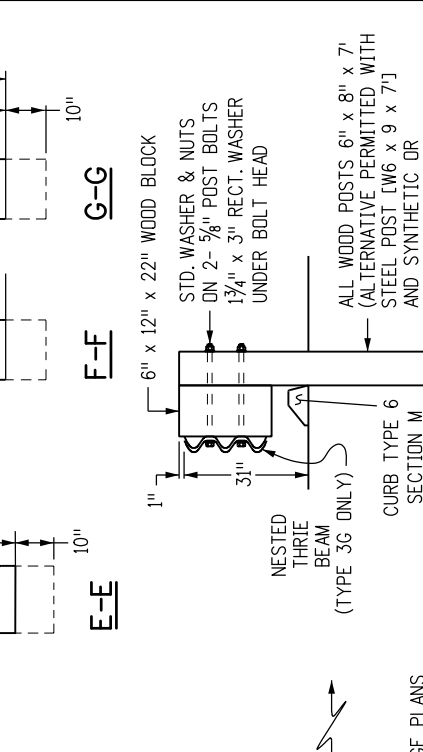
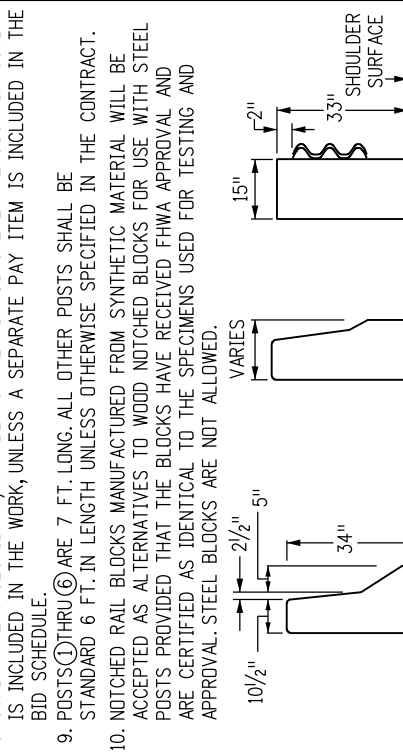
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MIDWEST
GUARDRAIL SYSTEM (MGs)
TYPE 3 W-BEAM 31 INCHES
 Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
M-606-1
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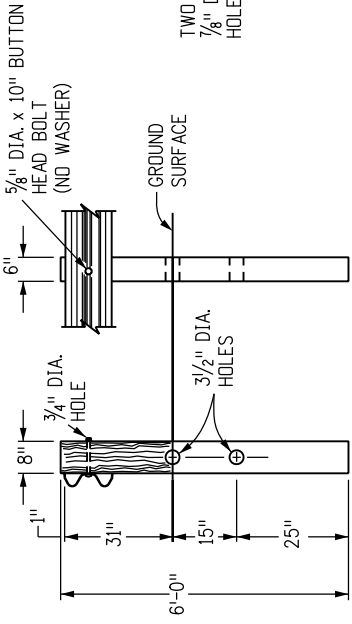


- NOTES**
- TRANSITION TYPE 3G IS FOR USE AT BOTH ENDS OF BRIDGES ON TWO-WAY HIGHWAYS AND AT THE APPROACH END OF BRIDGES ON ONE-WAY HIGHWAYS. ON ONE-WAY HIGHWAYS.
 - THE THRIE BEAM SECTION IN TRANSITIONS TYPES 3G AND 3H MAY BE SHOP BENT TO FIT CURVES THAT ARE GREATER THAN OR EQUAL TO A 10 FT. RADIUS. HOWEVER, THE 6 FT.-3 IN. TRANSITION SECTION SHALL NOT BE BENT.
 - A 12 FT.-6 IN. CONCRETE TRANSITION IS REQUIRED BETWEEN THE TYPE 3G OR 3H AND TYPE 7 BRIDGE RAIL. SEE STANDARD PLAN M-606-13 FOR THE TRANSITION BETWEEN TYPE 3 GUARDRAIL AND TYPE 7 GUARDRAIL.
 - TRANSITIONS TYPE 3G AND TYPE 3H ARE ALSO USED TO CONNECT TO TYPE 8 AND TYPE 10 BRIDGE RAIL. SEE BRIDGE PLANS FOR CONNECTION DETAILS.
 - BACKUP PLATE IS NOT REQUIRED AT POSTS ON TYPE 3G AND 3H.
 - THIS SYMBOL IN THE ELEVATION DRAWINGS SHOWS THE LOCATIONS WHERE A RECTANGULAR WASHER IS REQUIRED UNDER THE POST BOLT HEAD.
 - CURB TYPE 6 SECTION M, MAY BE ASPHALT OR CONCRETE; THE COST OF CURB IS INCLUDED IN THE WORK, UNLESS A SEPARATE PAY ITEM IS INCLUDED IN THE BID SCHEDULE.
 - POSTS ① THRU ⑥ ARE 7 FT. LONG. ALL OTHER POSTS SHALL BE STANDARD 6 FT. IN LENGTH UNLESS OTHERWISE SPECIFIED IN THE CONTRACT.
 - NOTCHED RAIL BLOCKS MANUFACTURED FROM SYNTHETIC MATERIAL WILL BE ACCEPTED AS ALTERNATIVES TO WOOD NOTCHED BLOCKS FOR USE WITH STEEL POSTS PROVIDED THAT THE BLOCKS HAVE RECEIVED FHWA APPROVAL AND ARE CERTIFIED AS IDENTICAL TO THE SPECIMENS USED FOR TESTING AND APPROVAL. STEEL BLOCKS ARE NOT ALLOWED.



Computer File Information		Sheet Revisions	
Creation Date: 08/19/15	Initials: DLM	Date:	Comments
Last Modification Date: 12/29/15	Initials: LTA	12/29/15	Raised guardrail height to 31" and leveled the top of transition curbs.
Full Path: www.codot.gov/business/designsupport		(R-X)	
Drawing File Name: 60601012020.dgn		(R-X)	
CAD Ver.: MicroStation V8	Scale: Not to Scale	Units: English	

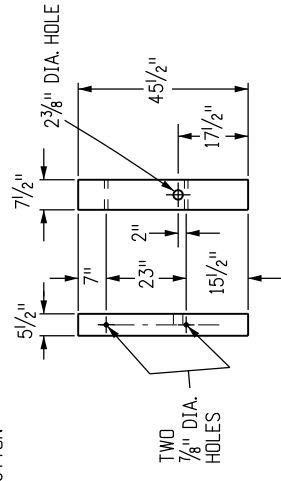
Colorado Department of Transportation		MIDWEST
4201 East Arkansas Avenue CDOT HQ, 4th Floor Denver, CO 80222 Phone: 303-757-9021 FAX: 303-757-9868		GUARDRAIL SYSTEM (MGS)
Division of Project Support		TYPE 3 W-BEAM 31 INCHES
DLM/LTA		STANDARD PLAN NO.
		M-606-1
		Sheet No. 12 of 20 52



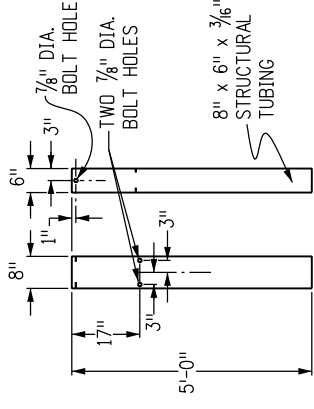
CONTROLLED RELEASING TERMINAL (CRT) POST 1

POST	DIMENSIONS	TYPE
1	6" x 8" x 6"	CRT
2	5 1/2" x 7 1/2" x 45 1/2"	BREAKAWAY

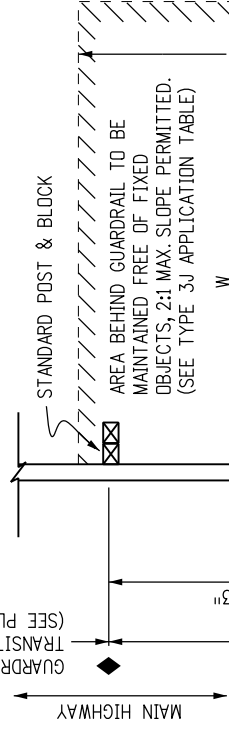
POSTS



WOOD BREAKAWAY POST 2

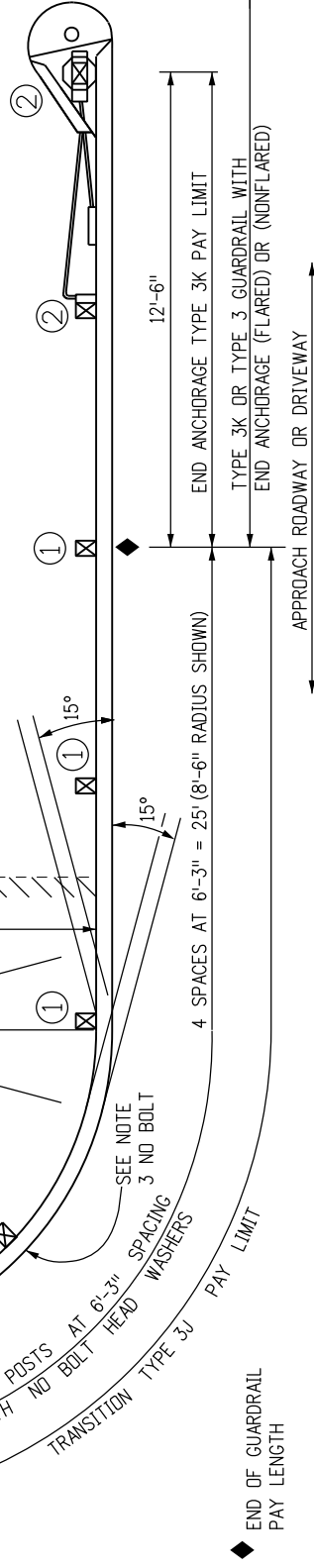


STEEL TUBE

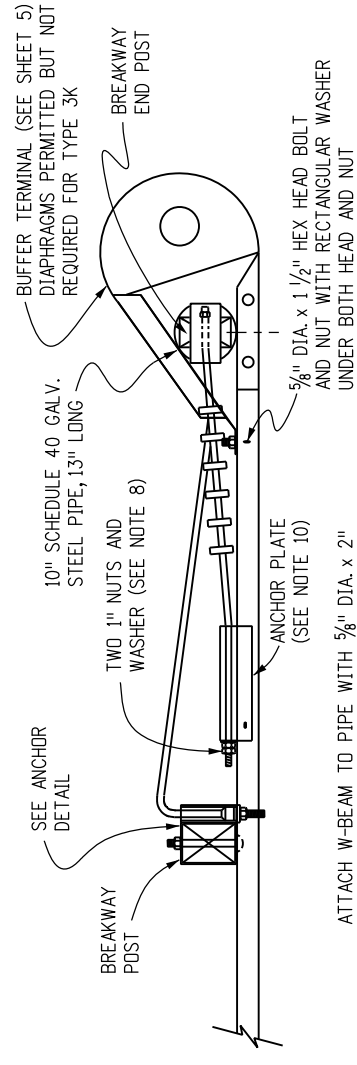


RADIUS	ANGLE	NO. CRT POSTS	AREA FREE OF FIXED OBJECTS	CURVED RAIL FOR ANGLE
8'-6"	75°-105°	5	25' x 15'	75° 90° 105°
17'	75°-90°	6	30' x 15'	11' 13' 15'
25'-6"	91°-105°	7	40' x 20'	22' 27' 31'
35'	75°-85°	8	20' x 20'	33' 40' 47'
	86°-95°	9		46' 55' 64'
	75°-85°	9		

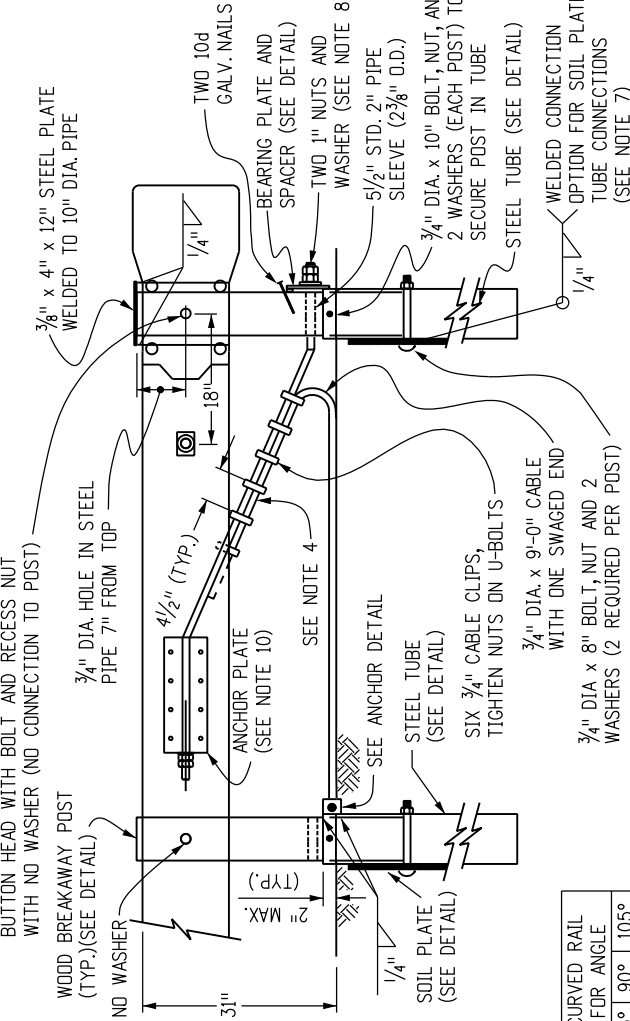
TRANSITION TYPE 3J APPLICATION



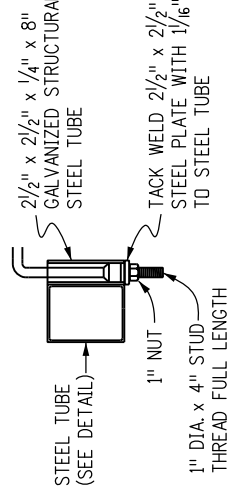
INTERSECTING ROADWAYS TRANSITION - TYPE 3J TRANSITION



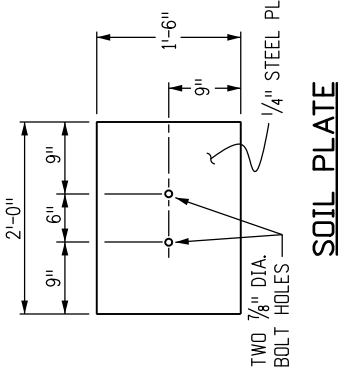
BREAKAWAY POST



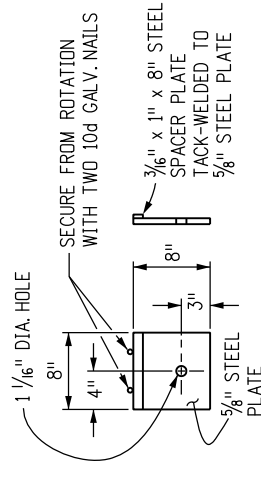
LOW SPEED TERMINAL - TYPE 3K



ANCHOR DETAIL



SOIL PLATE



BEARING PLATE FOR STEEL TUBE

NOTES

- APPLICATION: THE TRANSITION TYPE 3J MAY BE USED TO SHIELD HAZARDS AT THE INTERSECTION OF TWO ROADWAYS. TYPICAL APPLICATIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - CANAL SERVICE ROADS AT BRIDGE ENDS.
 - INTERRUPTIONS IN GUARDRAIL RUNS BY INTERSECTING ROADWAYS, ETC..
 THE LOW SPEED (<45 MPH) END ANCHORAGE TYPE 3K SHALL BE USED ONLY ON DRIVEWAYS AND LOW SPEED SERVICE ROADS. WHEN AN APPROVED CRASH-TESTED END TREATMENT IS REQUIRED USE THE END ANCHORAGE (FLARED) OR (NONFLARED) WITH 37 FT.-6 IN. LENGTH.
- GRADING AND PAVING FOR THE 3J & 3K SHALL MATCH THE GRADING AND PAVING OF THE GUARDRAIL TO WHICH THEY ARE ATTACHED, AND SHALL BE IN ACCORDANCE WITH SHEET ONE OF THIS STANDARD. MAXIMUM FILL SLOPE SHALL BE 2:1. THE RAIL IS NOT BOLTED TO THE CRT POST AT THE CENTER OF THE CURVE FOR THE 8 FT.-6 IN., 17 FT., AND 25 FT.-6 IN. RADII. PLATES SHALL CONFORM TO ASTM A 36, AND THE STRUCTURAL TUBING TO ASTM A 500.
- THE 3/4 IN. GALVANIZED WIRE ROPE (CABLE) SHALL CONFORM TO AASHTO M 30 TYPE II.
- PLATES SHALL CONFORM TO ASTM A 36, AND STRUCTURAL TUBING TO ASTM A 500. WELDING SHALL MEET ALL REQUIREMENTS OF THE AMERICAN WELDING SOCIETY.
- ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN CONFORMANCE WITH ASTM A 123. POSTS SHALL NOT BE PUNCHED, DRILLED, CUT, OR WELDED AFTER GALVANIZING.
- WHEN THE SOIL PLATE WELDED OPTION IS SELECTED, SOIL PLATE CONNECTION BOLT HOLES ARE NOT REQUIRED.
- OUTSIDE NUT SHALL BE TORQUED AGAINST INSIDE NUT WITH THE CABLE INSTALLED TAUT BETWEEN THE ANCHOR PLATE AND FIRST POST.
- ALL CURVED GUARDRAIL SHALL BE SHOP BENT.
- SEE SHEET 4 FOR ANCHOR PLATE AND OTHER DETAILS.
- THE STEEL TUBE MAY BE DRIVEN WITH WOOD POST INSERTED IF NO DAMAGE OCCURS TO THE POST OR BOLTS.

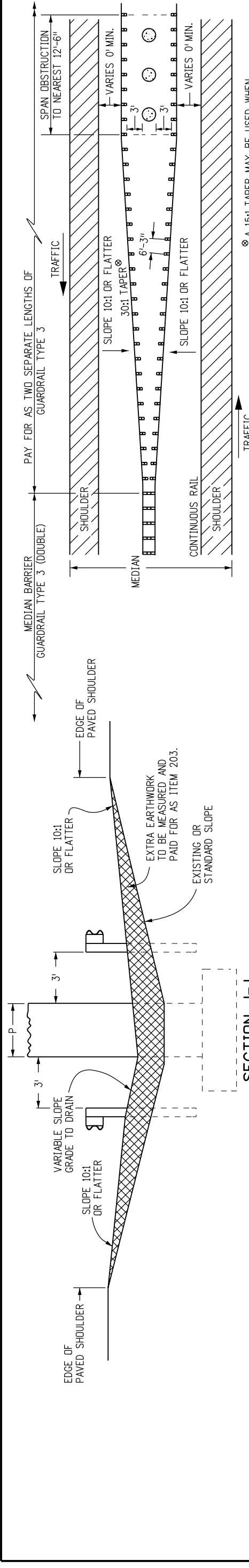
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CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions	
Date:	Comments
12/29/15	Raised guardrail height to .31"
(R-X)	
(R-X)	
(R-X)	

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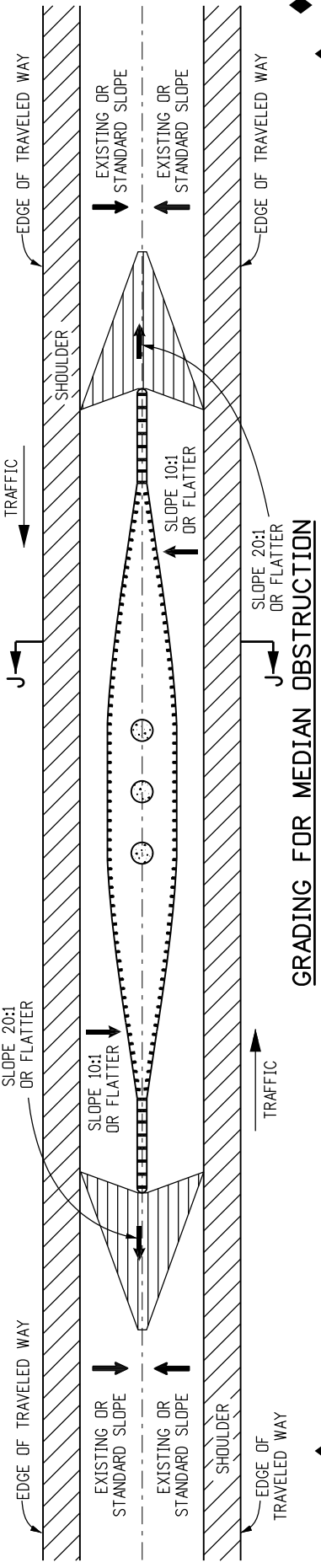
MIDWEST
 GUARDRAIL SYSTEM (MGS)
 TYPE 3 W-BEAM 31 INCHES
 Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
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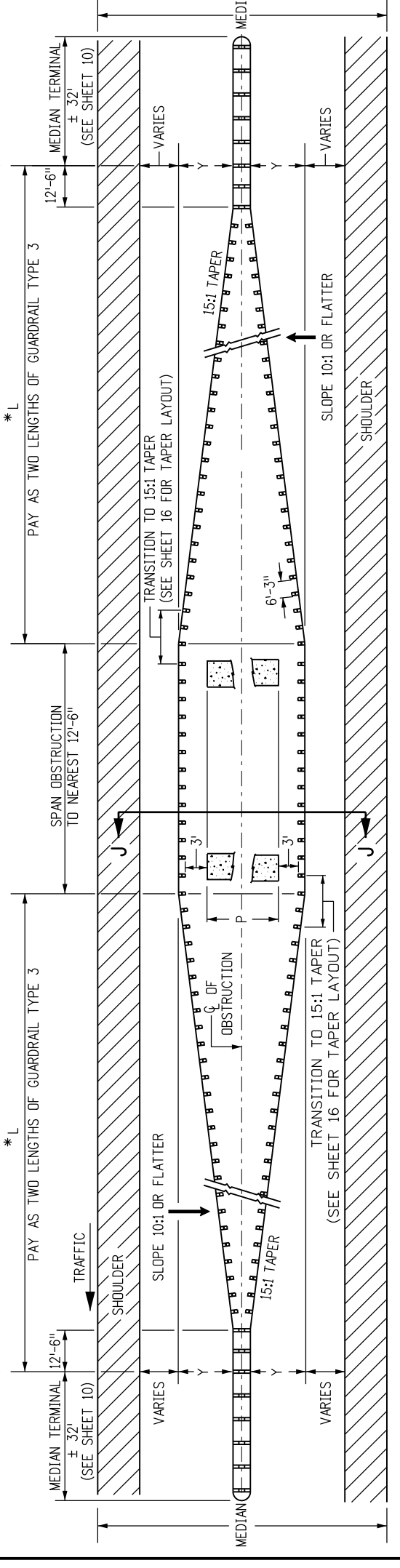


⊗ A 15:1 TAPER MAY BE USED WHEN THE BARRIER ENDS IN THE MEDIAN TERMINAL

OBSTRUCTION IN MEDIAN 30 FT. WIDE OR LESS



GRADING FOR MEDIAN OBSTRUCTION

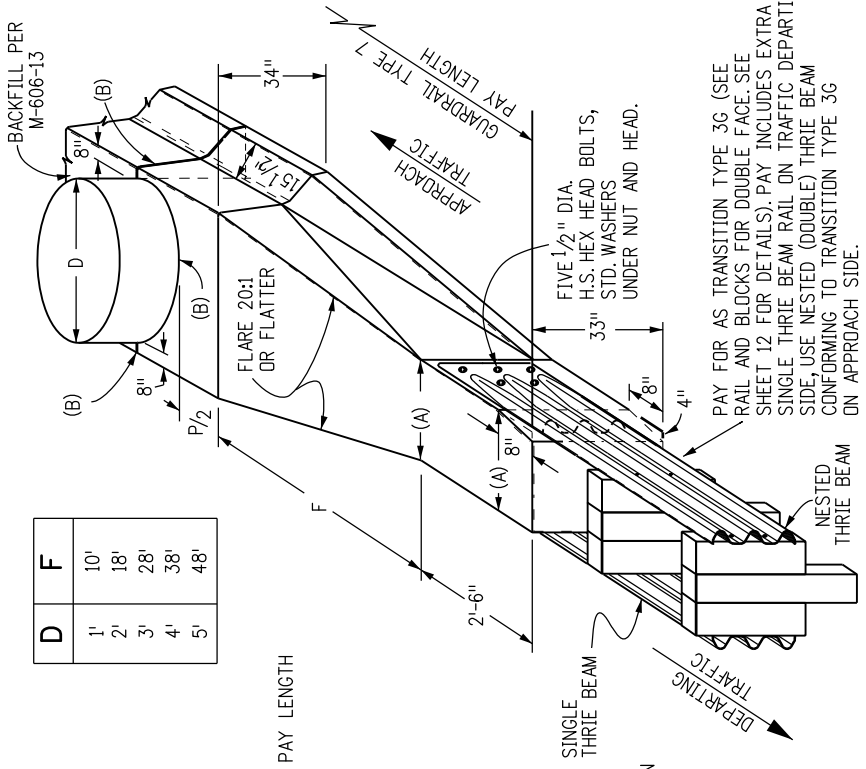


GUARDRAIL FOR OBSTRUCTION IN MEDIANS WIDER THAN 30 FT.

NOTE: FOR OBSTRUCTIONS (P) THAT ARE WIDER THAN 20 FT. IN MEDIANS USE SHEET 17.

P	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'	17'	18'	19'	20'
Y	4'-1"	4'-7"	5'-1"	5'-7"	6'-1"	6'-7"	7'-1"	7'-7"	8'-1"	8'-7"	9'-1"	9'-7"	10'-1"	10'-7"	11'-1"	11'-7"	12'-1"	12'-7"	13'-1"	13'-7"
L	75'	87'-6"	100'	112'-6"	125'	137'-6"	150'	162'-6"	175'	187'-6"	200'	212'-6"	225'							

* L IS MEASURED ALONG FACE OF GUARDRAIL



NARROW MEDIAN DETAIL

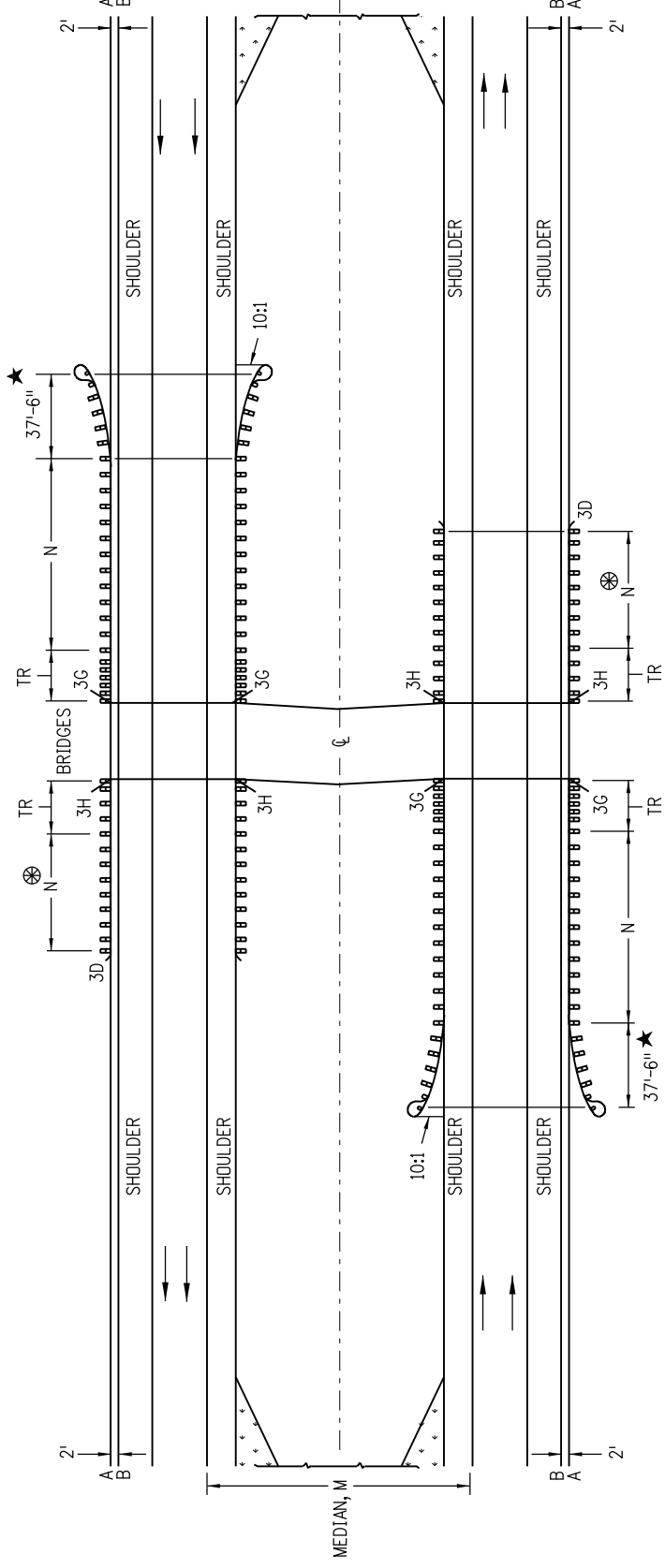
(A). TIMBER POSTS 2 FT., STEEL POSTS 1 FT.-9/2 IN.
 (B). 1/2 IN. PREFORMED JOINT MATERIAL

OBSTRUCTIONS IN MEDIANS

<p>Computer File Information</p> <p>Creation Date: 08/19/15 Initials: DLM Last Modification Date: 12/29/15 Initials: LTA Full Path: www.codot.gov/business/designsupport Drawing File Name: 6060101.4020.dgn CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English</p>	<p>Sheet Revisions</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Date:</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td>(R-X)</td> <td></td> </tr> <tr> <td>(R-X)</td> <td></td> </tr> <tr> <td>(R-X)</td> <td></td> </tr> </tbody> </table>	Date:	Comments	(R-X)		(R-X)		(R-X)		<p>Colorado Department of Transportation</p> <p>4201 East Arkansas Avenue CDOT HQ, 4th Floor Denver, CO 80222 Phone: 303-757-9021 FAX: 303-757-9868</p> <p>Division of Project Support DLM/LTA</p>	<p>MIDWEST</p> <p>GUARDRAIL SYSTEM (MGS)</p> <p>TYPE 3 W-BEAM 31 INCHES</p> <p>Issued By: Project Development Branch July 4, 2012</p>
Date:	Comments										
(R-X)											
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(R-X)											
			<p>STANDARD PLAN NO.</p> <p style="font-size: 24pt; font-weight: bold;">M-606-1</p>								
			<p>Sheet No. 14 of 20 54</p>								

NOTES

1. MEDIAN BARRIERS TANGENT TO THE ROADWAY MAY BE USED WHERE THE SHOULDER SLOPES IN THE MEDIAN ARE STEEP.
 2. BARRIER LENGTHS SHALL BE INCREASED TO ACCOUNT FOR STEEP EMBANKMENTS OR OTHER HAZARDS WITHIN CLOSE PROXIMITY OF BRIDGES.
- ⊗ — DO NOT CONSTRUCT THE TR AND GUARDRAIL ON THE TRAILING BRIDGE ENDS IF SITE CONDITIONS DO NOT WARRANT THE USE OF GUARDRAIL.
 - N — SHOWN ON PLANS. LENGTH TO SHIELD ALL HAZARDS IS BASED ON GUARDRAIL'S LENGTH OF NEED COMPUTATION. SEE AASHTO ROADWAY DESIGN GUIDE. THE MINIMUM SHALL BE 12 FT. - 6 IN. WHERE SITE CONDITIONS ALLOW. THE TOTAL LENGTH OF NEED WILL INCLUDE THE LENGTH OF TRANSITION, THE LENGTH OF RAIL (N), AND ANY REDIRECTIVE LENGTH IN THE RAIL END TREATMENT.
 - TR — 18 FT. - 9 IN. FOR 3G AND 3H.
 - A — EDGE OF 8 FT. OR 10 FT. SHOULDER.
 - B — EDGE OF 6 FT. OR LESS SHOULDER.
 - ★ — END ANCHORAGE CAN BE FLARED OR NONFLARED.



MULTILANE DIVIDED HIGHWAYS FOR STEEP EMBANKMENTS IN MEDIAN

Computer File Information	
Creation Date: 08/19/15	Initials: DLM
Last Modification Date: 12/29/15	Initials: LTA
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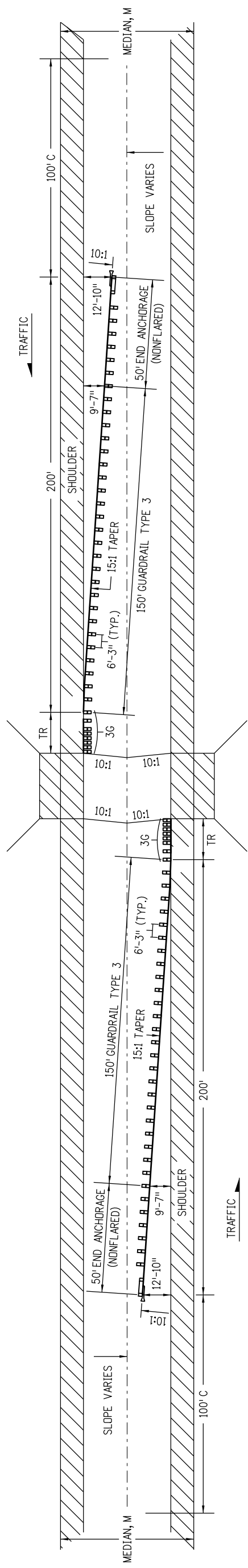
Sheet Revisions	
Date:	Comments
(R-X)	
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(R-X)	

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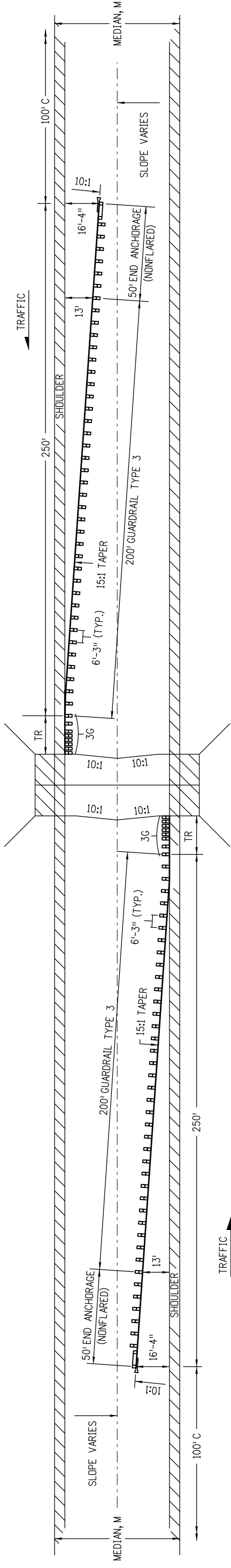
MIDWEST
GUARDRAIL SYSTEM (MGs)
TYPE 3 W-BEAM 31 INCHES
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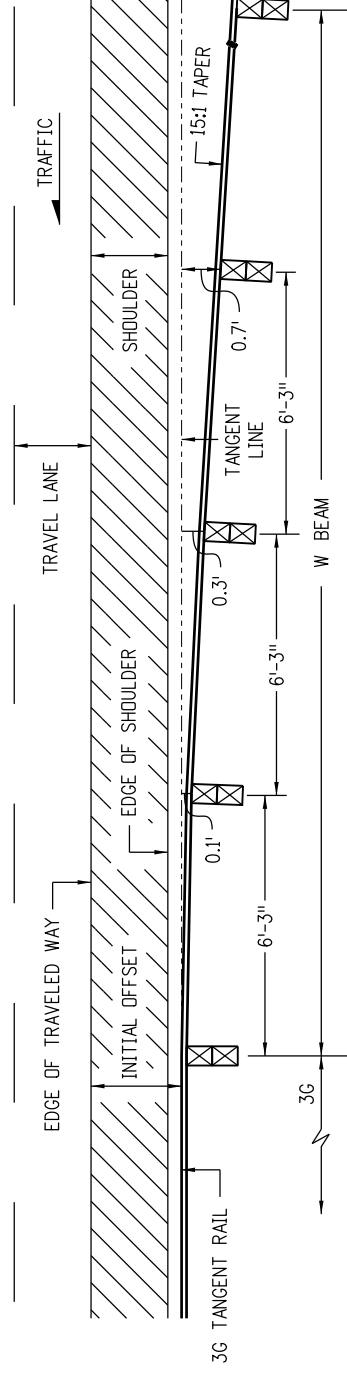


TR = 18 FT.-9 IN FOR TRANSITION TYPE 3G.
 C = CHANGE: 100 FT. TRANSITION TO NORMAL SLOPE.
 M = WIDTH OF MEDIAN.

MEDIANS 60 FT. AND OVER WITH 10 FT. OR WIDER SHOULDERS.



MEDIANS 60 FT. AND OVER WITH 4 TO 8 FT. SHOULDERS.



NOTES

1. GUARDRAIL TRANSITIONS FROM PARALLEL TO ROADWAY SHOULDER AT 3G SEGMENT TO 15:1 TAPER WITHIN 18'-9" BASED ON POST OFFSET DIMENSIONS SHOWN.
2. SEE SHEET 15 FOR THE RIGHT SHOULDER GUARDRAIL LAYOUT.

TRANSITION TO TYPICAL 15:1 TAPER

MULTILANE DIVIDED HIGHWAYS - (DEPRESSED MEDIANS, 60 FT. AND OVER WITH OPEN HAZARDS OR OBSTRUCTIONS)

Computer File Information	
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Last Modification Date: 12/29/15	Initials: LTA
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Date:	Comments
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MIDWEST
 GUARDRAIL SYSTEM (MGs)
 TYPE 3 W-BEAM 31 INCHES

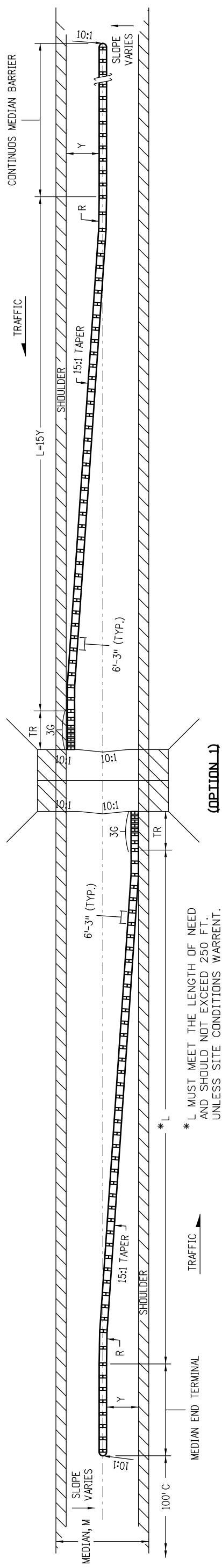
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STANDARD PLAN NO.
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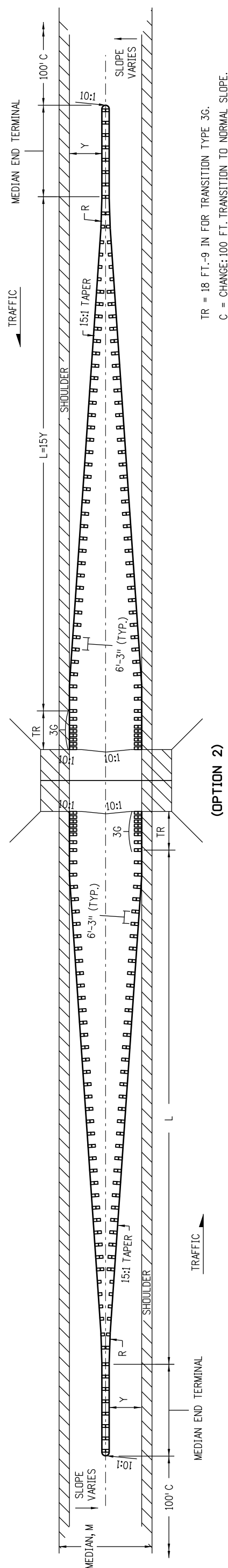
Sheet No. 16 of 20 **56**

NOTES

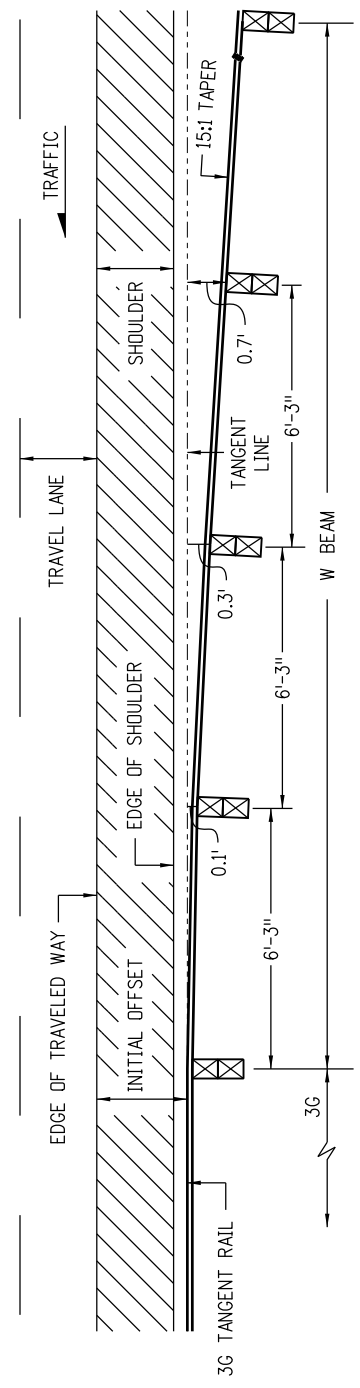
1. GUARDRAIL TRANSITIONS FROM PARALLEL TO ROADWAY SHOULDER AT 3G SEGMENT TO 15:1 TAPER WITHIN 18'-9" BASED ON POST OFFSET DIMENSIONS SHOWN.
2. THE OPTION 1 LAYOUT SHALL BE USED WHEN "Y" EXCEEDS 16 FEET OR WHEN MEDIAN BARRIER IS CONTINUOUS.
3. THE OPTION 2 LAYOUT SHALL BE USED WHEN "Y" IS 16 FEET OR LESS.
4. SEE SHEET 15 FOR RIGHT SHOULDER GUARDRAIL LAYOUT.



* L MUST MEET THE LENGTH OF NEED AND SHOULD NOT EXCEED 250 FT. UNLESS SITE CONDITIONS WARRANT.



- TR = 18 FT.-9 IN FOR TRANSITION TYPE 3G.
- C = CHANGE: 100 FT. TRANSITION TO NORMAL SLOPE.
- M = WIDTH OF MEDIAN.
- L = TOTAL LENGTH PAID AS GUARDRAIL TYPE 3.
- Y = FINAL OFFSET AT END.

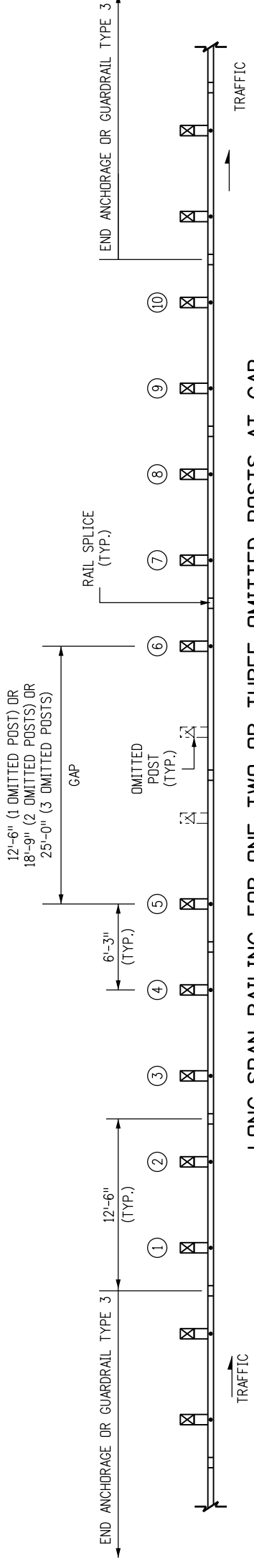


MULTILANE DIVIDED HIGHWAYS - (DEPRESSED MEDIANS, 21 - 59 FT. WITH OPEN HAZARDS OR OBSTRUCTIONS)

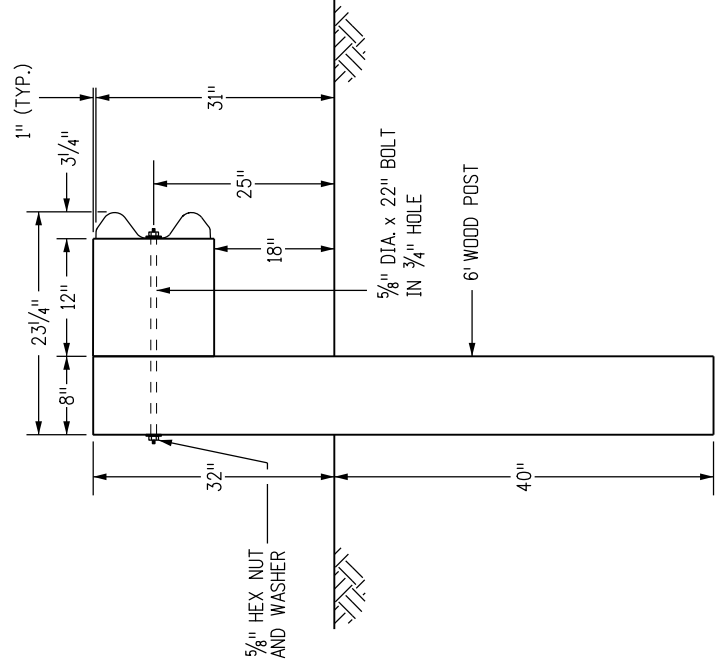
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Creation Date: 08/19/15	Initials: DLM	Date:	Comments:	4201 East Arkansas Avenue	GUARDRAIL SYSTEM (MGs)				M-606-1
Last Modification Date: 12/29/15	Initials: LTA			CDOT HQ, 4th Floor	TYPE 3 W-BEAM 31 INCHES				
Full Path: www.codot.gov/business/designsupport				Denver, CO 80222	Issued By: Project Development Branch July 4, 2012				
Drawing File Name: 60601017020.dgn				Phone: 303-757-9021 FAX: 303-757-9868	DLM/LTA				
CAD Ver.: MicroStation V8	Scale: Not to Scale	Units: English							Sheet No. 17 of 20 57

NOTES

1. POSTS ①, ②, ⑨, and ⑩ MAY BE TIMBER OR STEEL.
2. THE NUMBER OF OMITTED POSTS IS DEPENDENT ON THE LENGTH OF THE GAP.

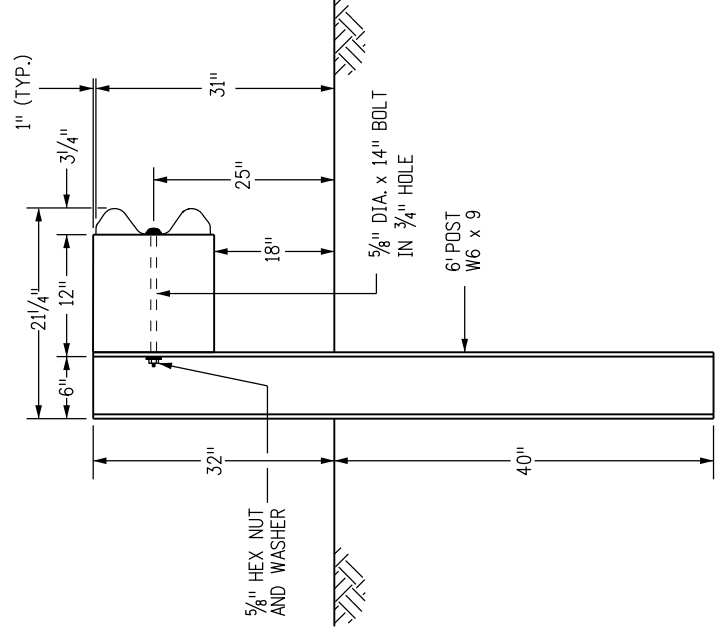


LONG-SPAN RAILING FOR ONE, TWO, OR THREE OMITTED POSTS AT GAP



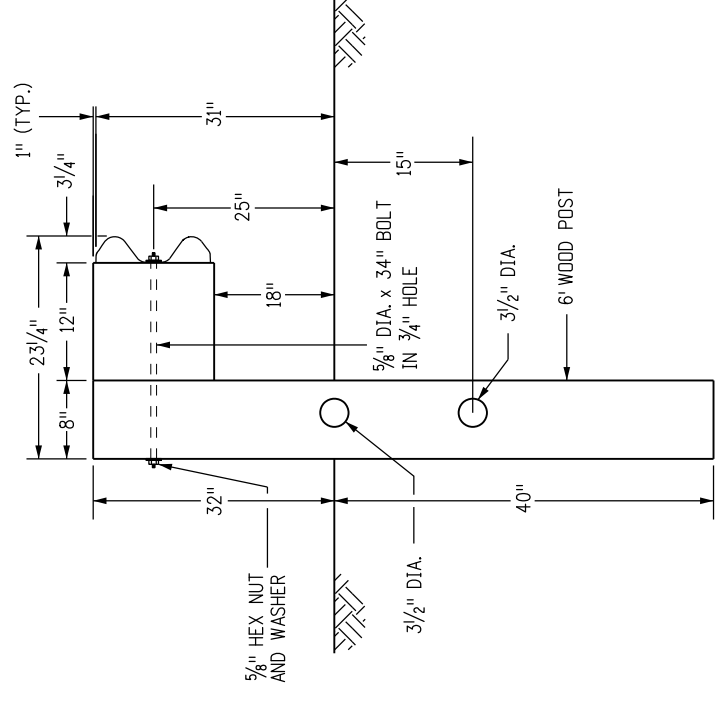
TIMBER POST

POSTS ①-② AND ⑨-⑩
(SEE NOTE 1)



STEEL POST

POSTS ①-② AND ⑨-⑩
(SEE NOTE 1)




BREAKAWAY TIMBER POST

POSTS ③ - ⑧

Computer File Information	
Creation Date: 08/19/15	Initials: DLM
Last Modification Date: 12/29/15	Initials: LTA
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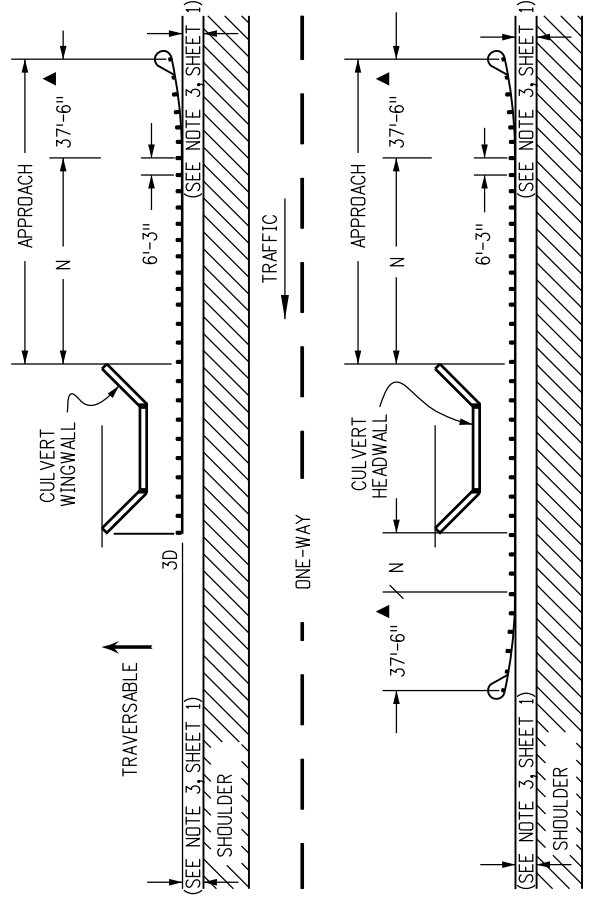
Sheet Revisions	
Date:	Comments
12/29/15	Raised guardrail height to 31".
12/29/15	Deleted Nested Revisions details. Revised General Notes. Combined 1, 2, and 3 omitted posts details into one detail.

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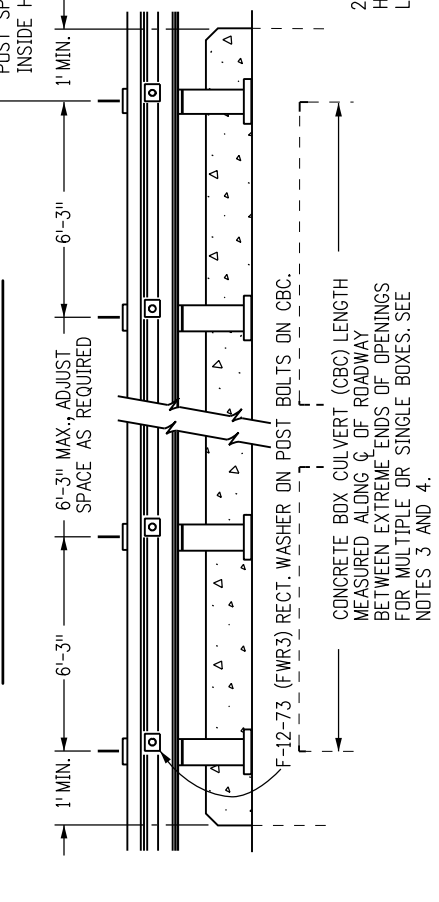
MIDWEST
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▲ END ANCHORAGE CAN BE FLARED OR NONFLARED.

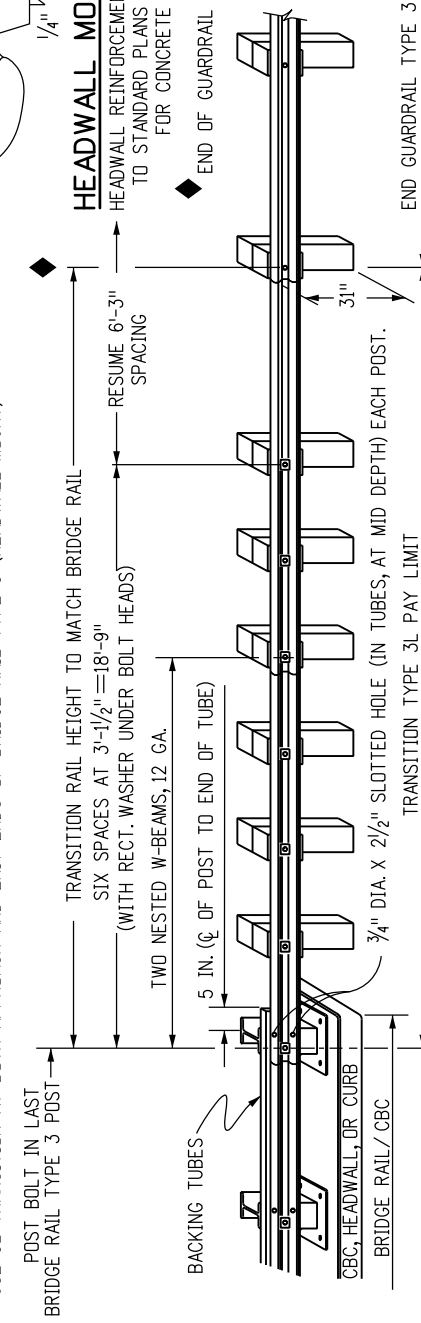


GUARDRAIL FOR CULVERTS



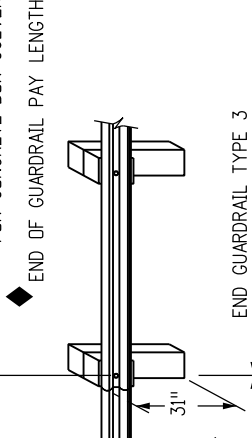
RAIL PLACEMENT FOR INSIDE OR HEADWALL MOUNT

* USE 3L TRANSITION AT BOTH APPROACH AND EXIT ENDS OF BRIDGE RAIL TYPE 3 (HEADWALL MOUNT)



HEADWALL MOUNT ON CBC

HEADWALL REINFORCEMENT SHALL BE ACCORDING TO STANDARD PLANS M-601-1, 2, AND 3 FOR CONCRETE BOX CULVERTS.



BACKING TUBES END DETAIL

(FOR HEADWALL MOUNT)
TUBES SHALL BE CONTINUOUS. NEITHER BOLTED NOR WELDED SPLICES WILL BE ALLOWED.

TRANSITION TYPE 3L AND GUARDRAIL TYPE 3 APPROACH

Computer File Information

Creation Date: 08/19/15	Initials: DLM
Last Modification Date: 12/29/15	Initials: LTA
Full Path: www.codot.gov/business/designsupport	
Drawing File Name: 60601020020.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions

Date:	Comments
12/29/15	Raised guardrail height to 31".
(R-X)	
(R-X)	
(R-X)	

Colorado Department of Transportation

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Denver, CO 80222
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Division of Project Support DLM/LTA

MIDWEST

GUARDRAIL SYSTEM (MGS)
TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.

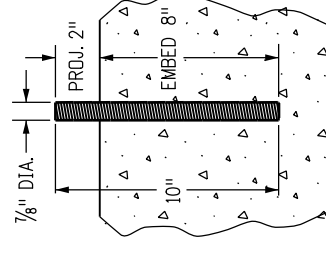
M-606-1

Sheet No. 20 of 20 60

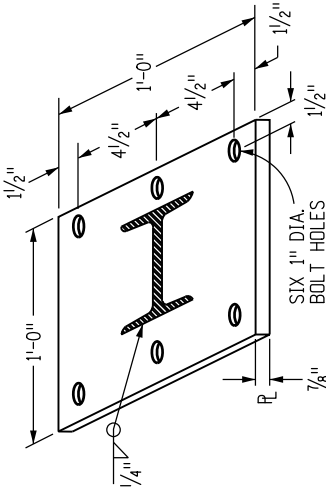
NOTES

- LOCATION AND LENGTH OF MEDIAN GUARDRAIL APPROACHES TO CULVERTS WITH FULL HEADWALL AND WINGWALLS SHALL BE AS SHOWN FOR BRIDGES ON SHEET 16. THE GUARDRAIL TYPE 3 SHALL CONTINUE ACROSS THE CULVERT AS SHOWN ON THIS SHEET.
- RIGHT SHOULDER BOX CULVERT TREATMENT IS SHOWN ON THIS SHEET FOR CULVERTS 20 FT. OR LESS IN LENGTH.

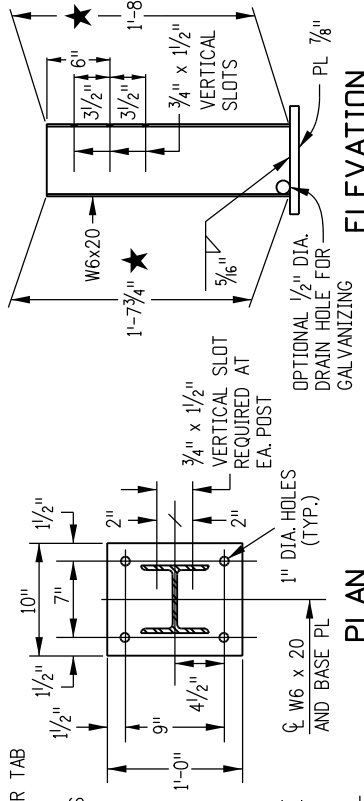
- GUARDRAIL ACROSS CULVERTS WITH A LENGTH OF 20 FT. OR LESS SHALL BE AS FOLLOWS:
 - FILL HEIGHT AT GUARDRAIL POST 48 IN. OR GREATER: CONSTRUCTION AND PAYMENT WILL BE AS GUARDRAIL TYPE 3.
 - FILL HEIGHT AT GUARDRAIL POST LESS THAN 48 IN. AND BLOCK FACE TO HEADWALL OFFSET OF 3 FT. OR GREATER: CONSTRUCTION AND PAYMENT AS GUARDRAIL TYPE 3.
 - FILL HEIGHT AT GUARDRAIL POST 48 IN. OR LESS AND BLOCK FACE TO HEADWALL OFFSET LESS THAN 3 FT.: CONSTRUCTION ACCORDING TO HEADWALL MOUNT DETAILS AND PAYMENT AS BRIDGE RAIL TYPE 3.
- GUARDRAIL ACROSS CULVERTS WITH LENGTH GREATER THAN 20 FT. SHALL BE AS FOLLOWS:
 - FILL HEIGHT AT GUARDRAIL POSTS 48 IN. OR GREATER: CONSTRUCTION AND PAYMENT WILL BE FOR STANDARD GUARDRAIL TYPE 3.
 - FILL HEIGHT AT GUARDRAIL POSTS 48 IN. OR LESS: CONSTRUCTION AND PAYMENT IN ACCORDANCE WITH THE CONTRACT BRIDGE PLANS. WHEN BLOCK FACE TO HEADWALL OFFSET IS 3 FT. OR GREATER: CONSTRUCTION AND PAYMENT AS GUARDRAIL TYPE 3.



ANCHORAGE D
(FOR INSIDE MOUNT)

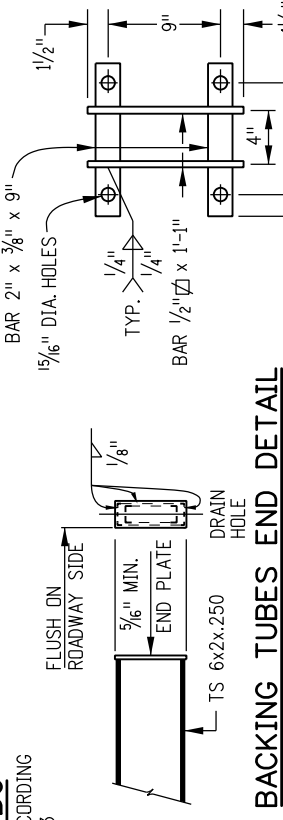


BASE PLATE B
(FOR INSIDE MOUNT)



HEADWALL MOUNT POST DETAIL

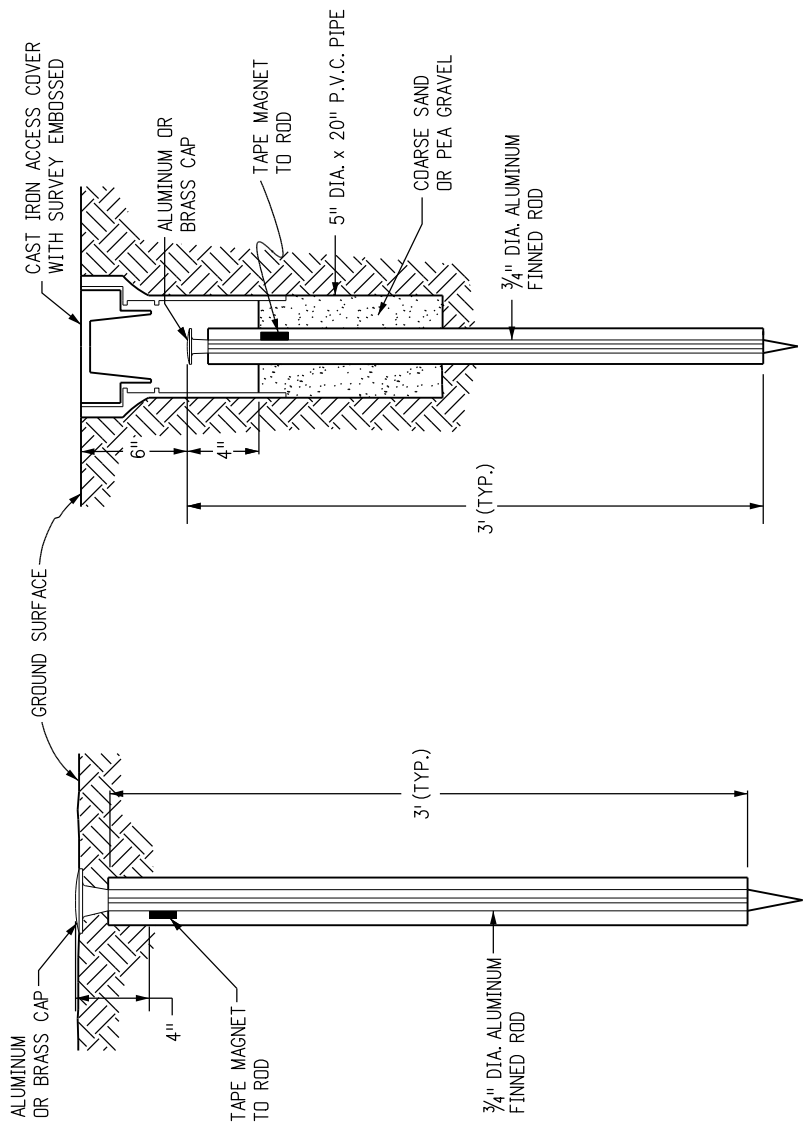
HEADWALL MOUNT POST DETAIL



ANCHOR DETAIL
(FOR HEADWALL MOUNT)

- ANCHORAGE D: SIX BOLTS FOR BASE PLATE "B" WITH INSIDE MOUNT. THE BOLTS SHALL BE 7/8 IN. DIA X 10 IN. HIGH STRENGTH RODS THREADED FULL LENGTH AND ALL GALVANIZED. RODS SHALL BE CAST-IN-PLACE FOR A NEW STRUCTURE. FOR AN EXISTING STRUCTURE, THE RODS SHALL BE INSTALLED IN 1-1/4 IN. DIA HOLES WITH NON-SHRINK GROUT OR EPOXY CONFORMING TO ASTM C 881.
- TYPE 3L POSTS SHALL BE STEEL OR WOOD TO MATCH POSTS USED ON THE APPROACH GUARDRAIL.
- THE GUARDRAIL LENGTH DIMENSION "N" IS THE LENGTH AS DETERMINED BY THE LENGTH OF NEED COMPUTATION AND IS SHOWN ON THE PLANS. THE MINIMUM IS 12 FT.-6 IN. WHERE SITE CONDITIONS ALLOW. THE OVERALL REQUIRED LENGTH OF NEED CAN INCLUDE THE LENGTH OF TRANSITION, THE LENGTH OF RAIL (N), AND ANY REDIRECTIVE LENGTH IN THE RAIL END TREATMENT.
- ALL BRIDGE RAIL TYPE 3 BACKING TUBES SHALL BE FABRICATED FROM ASTM A 500 GRADE B. ALL POSTS, BASE PLATES, AND ANCHOR BOLTS SHALL BE FABRICATED FROM ASTM A 36 STEEL. THE ABOVE MATERIAL, W-BEAM, AND ALL ANCHOR BOLTS AND MISCELLANEOUS BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 509. CONCRETE, REINFORCING STEEL, AND STRUCTURAL STEEL ELEMENTS SHALL BE IN ACCORDANCE WITH SECTIONS 601, 602, AND 509, RESPECTIVELY.
- POST ANCHORS, ENCASED IN CONCRETE, SHALL BE ASTM A 36 STEEL, AND NEED NOT BE GALVANIZED.
- PRIOR TO FABRICATION OF BRIDGE RAIL, THREE SETS OF WORKING DRAWINGS WHICH COMPLY WITH THE REQUIREMENTS OF SECTION 105 SHALL BE SUBMITTED TO THE ENGINEER FOR INFORMATION ONLY.
- IF HEADWALL MOUNT GUARDRAIL IS USED, SEE STANDARD PLAN M-601, AND NOTES BELOW:
 - ALL ITEMS ABOVE TOP OF CBC HEADWALL WILL BE MEASURED AND PAID FOR AS LINEAR FEET OF BRIDGE RAIL TYPE 3.
 - HEADWALL MOUNTING OF RAIL WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

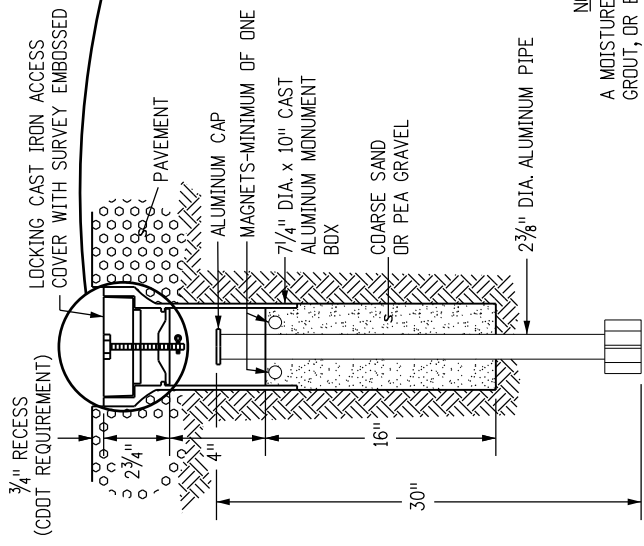
- ★ FOR STANDARD 12 IN. HEADWALL WITH NO PAVEMENT, THE POST HEIGHT SHALL BE 1 FT.- 6 IN. ADJUST POST HEIGHT FOR PAVEMENT THICKNESS.
- ONE ANCHOR ASSEMBLY SHALL BE PLACED FOR EACH RAIL POST.



TYPE 1 MONUMENT

TYPE 1A MONUMENT

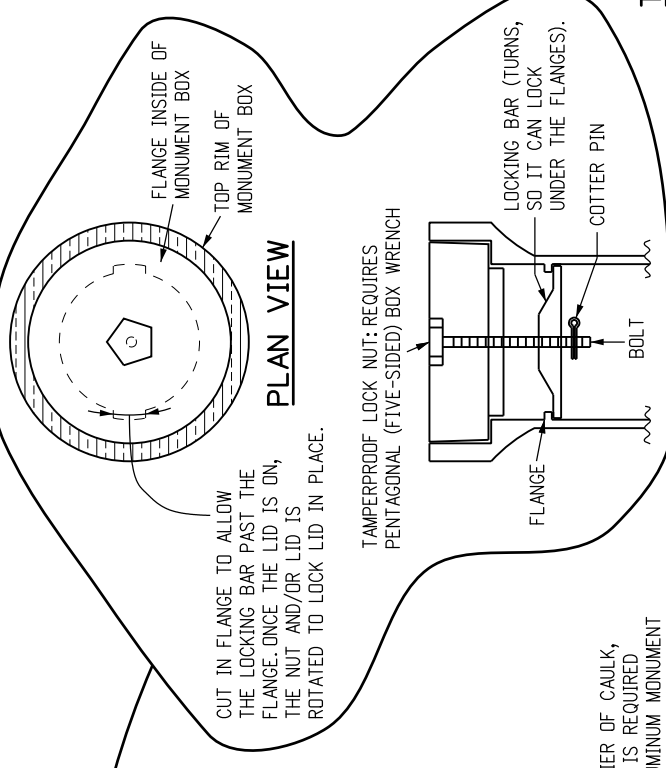
INCLUDES MONUMENT BOX



TYPE 3A MONUMENT

ROADWAY INSTALLATION
INCLUDES MONUMENT BOX

NOTE:
A MOISTURE BARRIER OF CAULK,
GROUT, OR EPOXY IS REQUIRED
BETWEEN THE ALUMINUM MONUMENT
BOX AND THE PAVEMENT.



PLAN VIEW

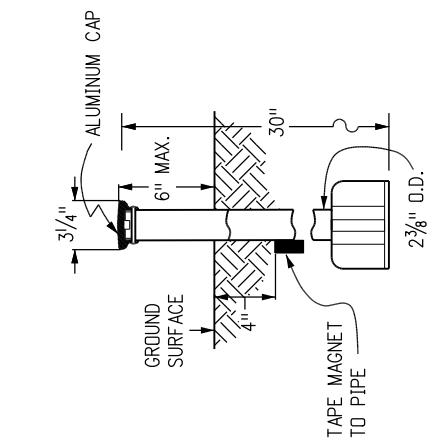
CUT IN FLANGE TO ALLOW
THE LOCKING BAR PAST THE
FLANGE. ONCE THE LID IS ON,
THE NUT AND/OR LID IS
ROTATED TO LOCK LID IN PLACE.

TAMPERPROOF LOCK NUT: REQUIRES
PENTAGONAL (FIVE-SIDED) BOX WRENCH

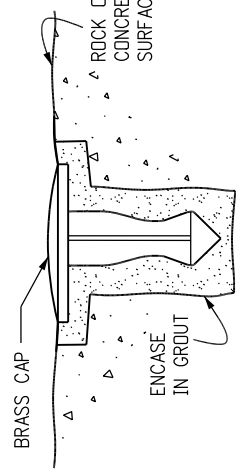
LOCKING BAR (TURNS,
SO IT CAN LOCK
UNDER THE FLANGES).

COTTER PIN

BOLT

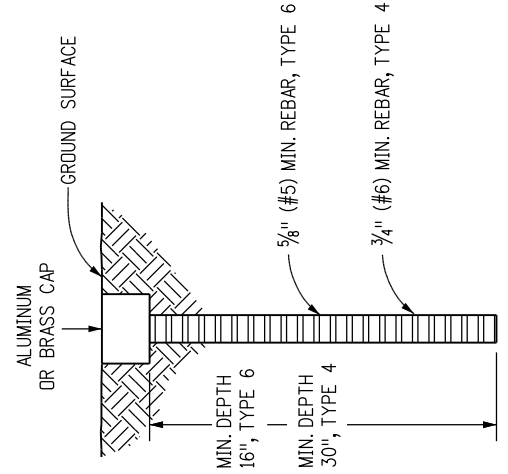


TYPE 3 MONUMENT

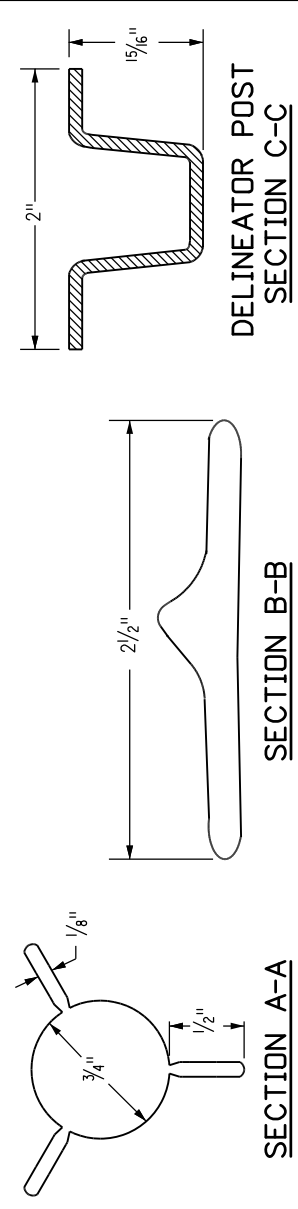


TYPE 5 MONUMENT

ALUMINUM CAP AND TYPE 5(S)
DETAILS SHOWN ON SHEET 2



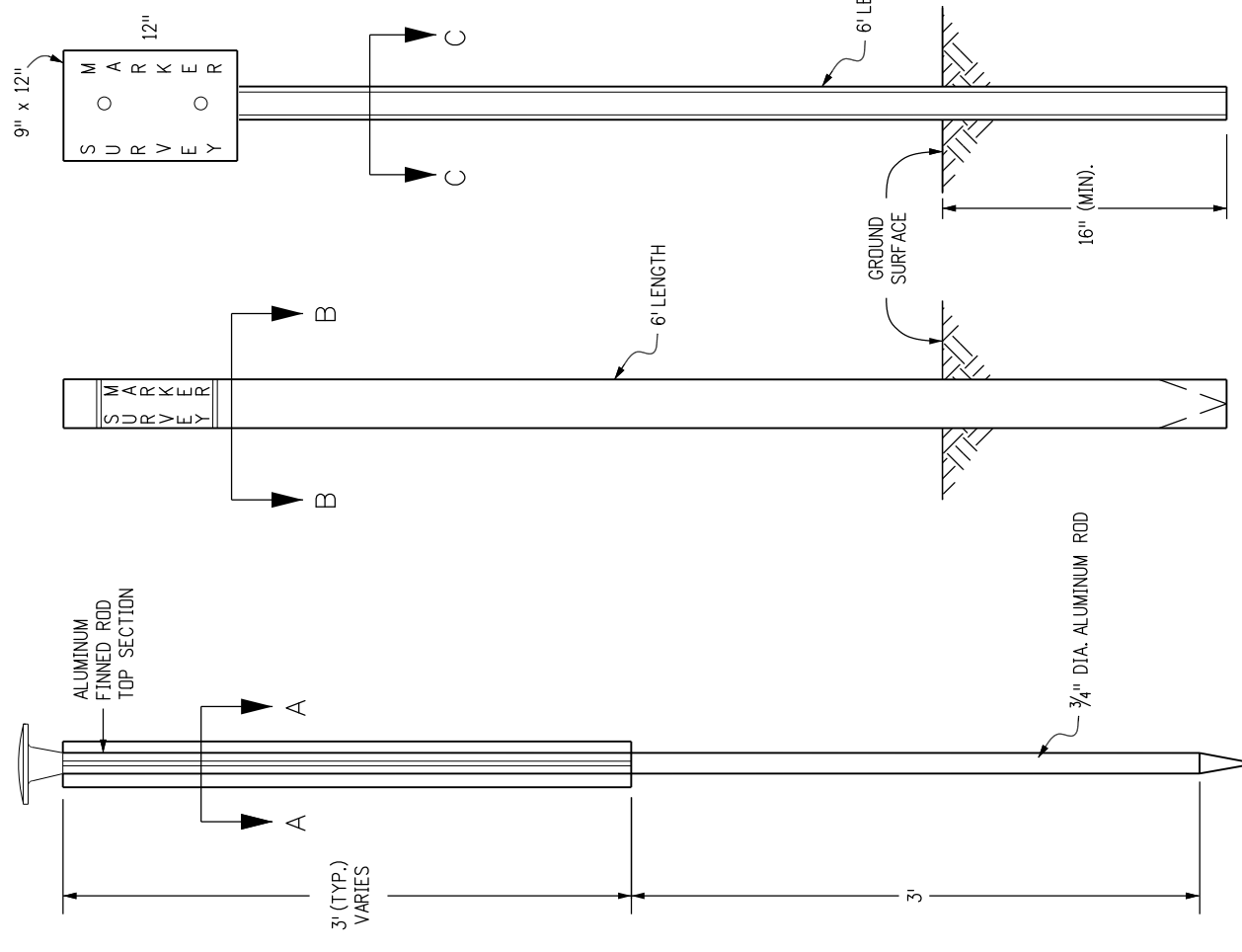
TYPE 4 AND TYPE 6 MONUMENT



SECTION A-A

SECTION B-B

**DELINEATOR POST
SECTION C-C**



TYPE 2 MONUMENT

TYPE 2A INCLUDES MONUMENT BOX

WITNESS POSTS

TYPE 2A INCLUDES MONUMENT BOX

Computer File Information

Creation Date: 7/04/12	Initials: DD
Last Modification Date: 7/04/12	Initials: LTA
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Drawing File Name: 629010102.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions

Date:	Comments
(R-X)	
(R-X)	
(R-X)	
(R-X)	

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Project Development Branch DD/LTA

SURVEY MONUMENTS

STANDARD PLAN NO. M-629-1

Sheet No. 1 of 2 61

Issued By: Project Development Branch July 4, 2012

ALL MONUMENTATION MATERIALS WILL BE FURNISHED BY CDOT
 THE MONUMENT TYPE SHALL MEET THE MINIMUM STANDARDS AS DETERMINED BY THE COLORADO STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS RULES (STATE BOARD RULES).
 THE CDOT SURVEY COORDINATOR SHALL APPROVE ALL EXCEPTIONS FOR STAMPING MONUMENTS DIFFERING FROM THE STANDARDS.

TYPE 1 AND TYPE 1A ALUMINUM FINNED ROD MONUMENTS

THIS MONUMENT SHALL BE USED FOR ROW OR REFERENCE MONUMENTS OR MAY BE USED FOR AN ALIQUOT CORNER MONUMENT. WHEN USED AS AN ALIQUOT CORNER MONUMENT, INSTALLATION AND RECORD FILING REQUIREMENTS SHALL BE AS STATED FOR TYPE 3 AND TYPE 3A MONUMENTS.

MONUMENTS SHALL BE INSTALLED BY ATTACHING THE PROPER SIZE TIP TO ONE END OF A SECTION OF FINNED ROD, AND A 3 IN. LONG X 3/4 IN. DIA. STAINLESS STEEL ADAPTER TO THE OTHER END. THE DRIVER IS THEN PLACED OVER THE STAINLESS STEEL ADAPTER FOR THE HAMMER TO CONTACT. TYPE 1 MONUMENTS SHALL USE A MINIMUM 3 FT. SECTION OF FINNED ROD. WHEN SUBSURFACE ROCK OR CONCRETE IS ENCOUNTERED LESS THAN 3 FT. BELOW THE GROUND SURFACE, THE ROD SHALL BE EMBEDDED IN THE ROCK OR IN CONCRETE AT LEAST 6 IN. AND GROUTED IN PLACE. THE ROD MAY BE SHORTENED TO ACCOMMODATE THE CONDITIONS.

WHEN UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, ADDITIONAL SECTIONS OF ROD SHALL BE ADDED TO ACHIEVE STABILITY. HORIZONTAL AND VERTICAL STABILITY ARE REQUIRED. IN MOST SOIL CONDITIONS THE TYPE 2 MONUMENT IS EMBEDDED 6 FT. INTO THE GROUND. THE MONUMENT SHALL BE INSTALLED BY FIRST ATTACHING THE PROPER SIZE TIP TO A 3 FT. LONG X 3/4 IN. DIA. ROD, THEN DRIVING THE ROD AT LEAST 30 IN. INTO THE GROUND. ADDITIONAL 3 FT. LONG X 3/4 IN. FINNED ROD SECTIONS SHALL BE ADDED AND DRIVEN FLUSH WITH THE GROUND UNTIL THE MONUMENT IS IN A STABLE POSITION. THE FINS ARE BENT OVER USING PLIERS TO ACCOMMODATE INSTALLING THE CAP. THE CAP IS FIRMLY SEATED ONTO THE LAST FINNED SECTION OF ROD USING A DEAD BLOW SLEDGE HAMMER.

TYPE 2 AND TYPE 2A ALUMINUM FINNED ROD MONUMENTS

THIS MONUMENT SHALL BE USED FOR HORIZONTAL AND VERTICAL CONTROL MONUMENTS. WHEN UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, ADDITIONAL SECTIONS OF ROD SHALL BE ADDED TO ACHIEVE STABILITY. HORIZONTAL AND VERTICAL STABILITY ARE REQUIRED. IN MOST SOIL CONDITIONS THE TYPE 2 MONUMENT IS EMBEDDED 6 FT. INTO THE GROUND.

THE MONUMENT SHALL BE INSTALLED BY FIRST ATTACHING THE PROPER SIZE TIP TO A 3 FT. LONG X 3/4 IN. DIA. ROD, THEN DRIVING THE ROD AT LEAST 30 IN. INTO THE GROUND. ADDITIONAL 3 FT. LONG X 3/4 IN. FINNED ROD SECTIONS SHALL BE ADDED AND DRIVEN FLUSH WITH THE GROUND UNTIL THE MONUMENT IS IN A STABLE POSITION. THE FINS ARE BENT OVER USING PLIERS TO ACCOMMODATE INSTALLING THE CAP. THE CAP IS FIRMLY SEATED ONTO THE LAST FINNED SECTION OF ROD USING A DEAD BLOW SLEDGE HAMMER.

TYPE 2A MONUMENT INCLUDES MONUMENT BOX. A LOCKING CAST IRON ACCESS COVER SHALL BE INSTALLED WHEN THE MONUMENT IS LOCATED IN THE ROADWAY PAVEMENT.

TYPE 3 AND TYPE 3A ALUMINUM PIPE MONUMENTS

THIS MONUMENT SHALL BE USED FOR AN ALIQUOT CORNER MONUMENT. THE INSTALLATION OF THIS MONUMENT AND RECORD FILING SHALL BE DONE IN ACCORDANCE WITH THE STATE BOARD RULES. ALSO REFER TO THE CDOT SURVEY MANUAL AND THE BUREAU OF LAND MANAGEMENT REQUIREMENTS FOR MONUMENT INSTALLATION. THE LAND SURVEYOR'S LICENSE NUMBER AND THE YEAR SHALL BE STAMPED ON THE CAP.

TYPE 3A MONUMENT INCLUDES MONUMENT BOX. A LOCKING CAST IRON ACCESS COVER SHALL BE INSTALLED WHEN THE MONUMENT IS LOCATED IN THE ROADWAY PAVEMENT.

TYPE 4 ALUMINUM MONUMENT

THIS MONUMENT MAY BE INSTALLED IN LIEU OF REPLACING THE ENTIRE MONUMENT WHEN REBAR IS IN PLACE AT AN ALIQUOT CORNER LOCATION. REFER TO THE STATE BOARD RULES. A MINIMUM 2 IN. DIA. CAP SHALL BE USED ON 3/4 IN. (#6) REBAR.

TYPE 5 BRASS/ALUMINUM CAP MONUMENT

THIS MONUMENT MAY BE INSTALLED IN LIEU OF ALL OTHER CDOT MONUMENTS, WHEN THE POSITION IS LOCATED IN CONCRETE OR STABLE ROCK FORMATION.

TYPE 5(S) COPPER ALLOY CAP MONUMENT - SMALL

THIS MONUMENT MAY BE INSTALLED IN LIEU OF A TYPE 5 MONUMENT, WHEN THE POSITION IS LOCATED IN A CONCRETE SIDEWALK, CURB OR GUTTER, OR WHEN SETTING A TYPE 5 WOULD COMPROMISE THE INTEGRITY OF THE RECEIVING STRUCTURE.

STAMPING REQUIREMENTS:

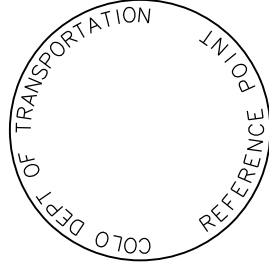
- "RPI", WHEN THE APPLICATION IS A REFERENCE POINT.
- "ROW", POINT NUMBER, "LS", AND REGISTRATION NUMBER WHEN THE APPLICATION IS A ROW POINT.
- "CPI" AND A UNIQUE IDENTIFIER PROVIDED BY THE REGION SURVEY COORDINATOR, WHEN THE APPLICATION IS A CONTROL POINT.
- "PE", POINT NUMBER, "LS", AND REGISTRATION NUMBER, WHEN THE APPLICATION IS A PERMANENT EASEMENT POINT.
- "PPI" AND POINT NUMBER, WHEN THE APPLICATION IS A PROJECT POINT.

TYPE 6 ALUMINUM MONUMENT

THIS MONUMENT SHALL BE USED FOR PERMANENT EASEMENTS, PROJECT BENCH MARKS, PROJECT POINTS, AND REFERENCES. AN ALUMINUM CAP WITH A MINIMUM DIAMETER OF 1 1/2 IN., SHALL BE USED ON 5/8 IN. (#5) MINIMUM REBAR.

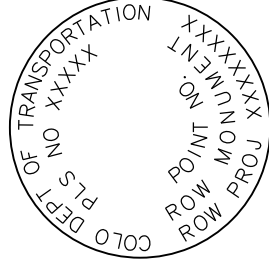
*** WITNESS POSTS**

THE WITNESS POST WILL BE SUPPLIED BY CDOT AND INSTALLATION SHALL BE INCLUDED IN THE WORK. IT SHALL BE DRIVEN WITHIN 1 FT. OF THE MONUMENT WHEN POSSIBLE. A DELINEATOR POST WITH A 9 IN. X 12 IN. METAL SIGN PANEL MAY BE USED IN LIEU OF THE PLASTIC POST. THIS POST SHALL CONFORM TO STANDARD PLAN S-612-1. A REQUIRED WITNESS POST MAY BE OMITTED WITH THE APPROVAL OF THE ENGINEER IF THE WITNESS POST LOCATION IS WITHIN A TRAVELED WAY, DRIVEWAY, OR ACCESS OPENING.

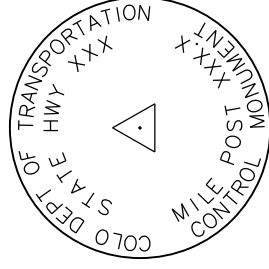


REFERENCE MONUMENT CAP

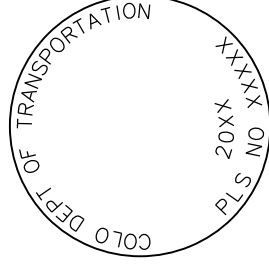
NOTE: A BLANK CAP MAY BE SUBSTITUTED IF THE APPROPRIATE CAP SHOWN ABOVE IS NOT AVAILABLE. IF A BLANK CAP IS USED, ALL INFORMATION NORMALLY INCLUDED ON THE APPROPRIATE STANDARD CAP, SHALL BE STAMPED ON THE BLANK CAP ALONG WITH SPECIFIC PROJECT INFORMATION SUCH AS PROJECT NO., DATE, POINT NO., ETC..



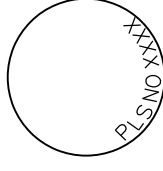
ROW MONUMENT CAP



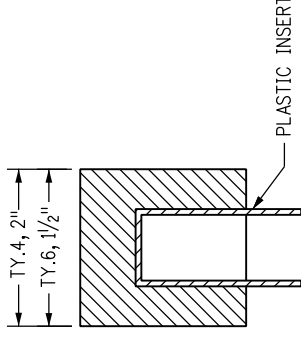
CONTROL MONUMENT CAP



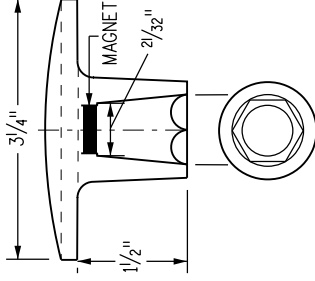
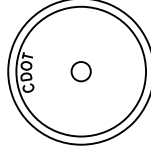
ALIQUOT CORNER MONUMENT CAP



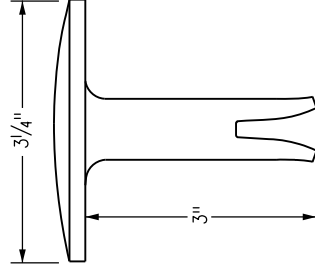
ALUMINUM CAP



ALUMINUM CAP

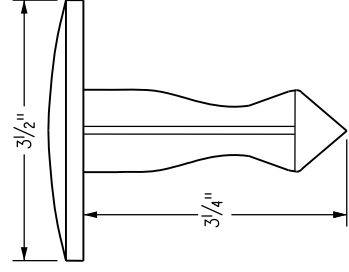


ALUMINUM CAP USED WITH ALUMINUM ROD



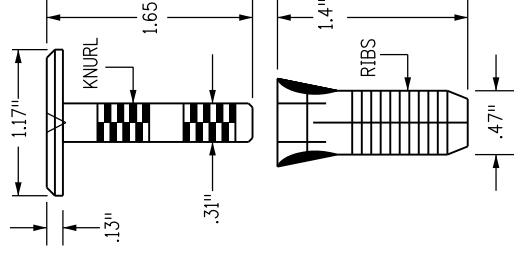
ALUMINUM CAP TYPE 5

FOR PLACING IN EXISTING CONCRETE OR ROCK



BRASS CAP TYPE 5

FOR PLACING IN EXISTING CONCRETE OR ROCK



COPPER ALLOY CAP

TYPE 5(S)

FOR PLACING IN EXISTING SIDEWALK, CURB, OR GUTTER

MONUMENT APPLICATION

CAP TYPE	MONUMENT TYPE									
	1	1A	2	2A	3	3A	4	5	5(S)	6
REFERENCE	X	X						X	X	X
ROW	X	X						X	X	X
CONTROL			X	X				X	X	X
ALIQUOT CORNER	X	X			X	X		X	X	X
PERMANENT EASEMENT								X	X	X
PROJECT POINTS								X	X	X
WITNESS POST* (REQUIRED)	X			X	X					X

Computer File Information

Creation Date: 7/04/12 Initials: DD
 Last Modification Date: 7/04/12 Initials: LTA
 Full Path: www.coloradodot.info/business/designsupport
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Sheet Revisions

Date:	Comments
(R-X)	
(R-X)	
(R-X)	
(R-X)	

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Project Development Branch

DD/LTA

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SURVEY

MONUMENTS

STANDARD PLAN NO.

M-629-1

Sheet No. 2 of 2 62