Public Review Draft Mitigated Negative Declaration

Newman Influent Trunk Sewer Improvements – Phase II

April 2023



Prepared by

EMC Planning Group

MITIGATED NEGATIVE DECLARATION

In Compliance with the California Environmental Quality Act (CEQA)

Project Name	Newman Influent Trunk Sewer Improvements – Phase II
Lead Agency	City of Newman
Project Proponent	City of Newman
Project Location	City of Newman and unincorporated Stanislaus County and unincorporated Merced County
Project Description	Proposed Phase II improvements consist of approximately 5,125 feet of 36-inch in diameter sewer line and 16 sewer manholes between Canal School Road and the Phase I connection. The connection to Phase I is shown on Sheet C-20 of the project plans and includes an additional 40 feet of 24 inch by 38-inch oval storm drains with four storm drain manholes.
Public Review Period	Begins-April 26, 2023 Ends-May 25, 2023
Written Comments To	Kathryn Reyes, Public Works Director City of Newman 938 Fresno Street, P. O. Box 787, Newman, CA 95360 kreyes@cityofnewman.com
Proposed Findings	The City of Newman is the custodian of the documents and other material that constitute the record of proceedings upon which this decision is based. The CEQA-Plus Initial Study indicates that the proposed project has the potential to result in significant adverse environmental impacts. However, the mitigation measures identified in the initial study would reduce the impacts to a less than significant level. There is no substantial evidence, in light of the whole record before the lead agency, City of Newman, that the project, with mitigation measures incorporated, may have a significant effect on the environment. See the following project-specific mitigation measures:

Mitigation Measures

Biological Resources

BIO-1 The City of Newman will implement U.S. Fish and Wildlife Service *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011) prior to initiation of and during any construction activity on the project site to avoid unintended take of individual San Joaquin kit foxes.

Preconstruction/pre-activity surveys for San Joaquin kit fox will be conducted no less than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity that may impact San Joaquin kit fox. The surveys will include all work areas and a minimum 200-foot buffer of the project site. The preconstruction surveys will identify kit fox habitat features on the project site, evaluate use by kit fox and, if possible, assess the potential impacts of the proposed activity. The status of all dens will be determined and mapped.

If a natal/pupping den is discovered within the project area or within 200 feet of the project boundary, the City of Newman will consult with the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service to establish an appropriate avoidance buffer. The avoidance buffer will be maintained until such time as the burrow is no longer active and/or an incidental take permit is determined to be required and is obtained.

In addition, the following measures will be observed:

a. Project-related vehicles will observe a 20-mph speed limit in all project areas; this is particularly important at night when kit foxes are most active. To the extent possible, night-time construction will be minimized. Off-road traffic outside of designated project area will be prohibited.

b. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of the project, all excavated, steep-walled holes or trenches more than two feet deep will be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures under number 11 of the Construction and Operational Requirements in the Standardized Recommendations must be followed.

c. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods will be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe will not be moved until the U.S. Fish and

Wildlife Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.

d. All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed at least once a week from a construction or project site.

e. No firearms will be allowed on the project site during construction activities.

f. To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets will be permitted on site during construction activities.

g. Use of rodenticides and herbicides on the project site during construction will be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds will observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the U.S. Fish and Wildlife Service. If rodent control must be conducted, zinc phosphide will be used because of proven lower risk to kit fox.

h. In the case of trapped animals, escape ramps or structures will be installed immediately to allow the animal(s) to escape.

i. Any contractor, employee, or agency personnel who inadvertently kills or injures a San Joaquin kit fox will immediately report the incident to the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service.

j. The City of Newman will prepare and maintain weekly reports on construction monitoring activities in the City of Newman Public Works Department.

BIO-2 To avoid loss of or harm to burrowing owl, the City of Newman will implement the following measures:

a. Prior to issuance of a grading permit, and to avoid/minimize impacts to burrowing owls potentially occurring within the project site, the City of Newman will retain a biologist qualified in ornithology to conduct surveys for burrowing owl. The qualified biologist will conduct a two-visit (i.e., morning and evening) presence/absence survey at areas of suitable habitat on and adjacent to the project site boundary no less than 14 days prior to the start of construction or ground disturbance activities. Surveys will be conducted according to the methods for take avoidance described in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993) and the Staff Report on Burrowing Owl Mitigation (CDFW 2012). If no burrowing owls are found, a letter report confirming absence will be prepared and submitted to the California Department of Fish and Wildlife and the City of Newman Public Works Department, where it will be kept on file, and no further measures are required.

b. Because burrowing owls occupy habitat year-round, seasonal no-disturbance buffers, as outlined in the *Burrowing Owl Survey Protocol and Mitigation Guidelines (CBOC 1993) and the Staff Report on Burrowing Owl Mitigation* (CDFW 2012), will be in place around occupied habitat prior to and during any ground disturbance activities. The following table includes buffer areas based on the time of year and level of disturbance (CDFW 2012), unless a qualified biologist approved by the California Department of Fish and Wildlife verifies through non-invasive measures that either: 1) birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	**Time of Year**	**Level of Disturbance Buffers (meters)**		
		Low	**Med**	**High**
Nesting Sites	April 1 – Aug 15	200 m	500 m	500 m
Nesting Sites	Aug 16 – Oct 15	200 m	200 m	500 m
Nesting Sites	Oct 16 – Mar 31	50 m	100 m	500 m

c. If burrowing owl is found and avoidance is not possible, burrow exclusion may be conducted by qualified biologists only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. Occupied burrows will be replaced with artificial burrows at a ratio of one collapsed burrow to one constructed artificial burrow (1:1). Evicted burrowing owls may attempt to colonize or re-colonize an area that would be impacted, thus ongoing surveillance during project activities will be conducted at a rate sufficient to detect burrowing owls if they return.

d. If surveys locate occupied burrows in or near construction areas, the City of Newman will consult with the California Department of Fish and Wildlife to interpret survey results and develop a project-specific avoidance and minimization approach. Once the absence of burrowing owl has been confirmed, a letter report will be prepared by the biologist and submitted to the California Department of Fish and Wildlife and the City of Newman Public Works Department, where it will be kept on file, and no further measures are required.

BIO-3 The City of Newman will implement the following measures to avoid loss of or harm to Swainson's hawk and other raptors:

a. Tree and vegetation removal will be completed during the nonbreeding season for raptors (September 16–January 31).

b. To avoid, minimize, and mitigate potential impacts on Swainson's hawk and other raptors nesting on or adjacent to the project site, the City of Newman will retain a qualified biologist to conduct preconstruction surveys and identify active nests on and within 0.5 mile of the project site for construction activities conducted during the breeding season (February 1–September 15). The surveys will be conducted before the approval of grading and/or improvement plans (as applicable) and no less than 14 days and no more than 30 days before the beginning of construction. Guidelines, provided in Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley (Swainson's Hawk Technical Advisory Committee 2000) or updated, current guidance, will be followed for surveys for Swainson's hawk. If no nests are found, a report documenting the results of the survey will be submitted to the City of Newman Public Works Department and no further mitigation will be required.

c. Impacts on nesting Swainson's hawks and other raptors will be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. No project activity will commence within the buffer areas until a qualified biologist has determined, in coordination with California Department of Fish and Wildlife, the young have fledged, the nest is no longer active, or reducing the buffer would not result in nest abandonment. California Department of Fish and Wildlife guidelines recommend implementation of 0.25- or 0.5-mile-wide buffers for Swainson's hawk nests, but the size of the buffer may be decreased if a qualified biologist, in consultation with California Department of Fish and Wildlife, determine that such an adjustment would not be likely to adversely affect the nest.

   The appropriate no-disturbance buffer for other raptor nests (i.e., species other than Swainson's hawk) will be determined by a qualified biologist based on site-specific conditions, the species of nesting bird, nature of the project activity, visibility of the disturbance from the nest site, and other relevant circumstances.

   Monitoring of all active raptor nests by a qualified biologist during construction activities will be required if the activity has potential to adversely affect the nest. If construction activities cause the nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no-disturbance buffer will be increased until the agitated behavior ceases. The exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined appropriate by a qualified biologist.

BIO-4 The City of Newman will implement following measures to avoid loss of or harm to special-status bat species:

a. Approximately 14 days prior to tree removal or construction activities, a qualified biologist will conduct a habitat assessment for bats and potential roosting sites in trees to be removed and in trees or buildings within 50 feet of the construction easement. These surveys will include a visual inspection of potential roosting features (bats need not be present) and a search for presence of guano within the project site, construction

access routes, and 50 feet around these areas. Cavities, crevices, exfoliating bark, and bark fissures that could provide suitable potential nest or roost habitat for bats will be surveyed. Assumptions can be made on what species is present due to observed visual characteristics along with habitat use, or the bats can be identified to the species level with the use of a bat echolocation detector such as an "Anabat" unit. Potential roosting features found during the survey will be flagged or marked.

b. If no roosting sites or bats are found, a letter report confirming absence will be prepared by the biologist and submitted to the California Department of Fish and Wildlife and the City of Newman Public Works Department, where it will be kept on file, and no further mitigation is required.

c. If bats or roosting sites are found, bats will not be disturbed without specific notice to and consultation with California Department of Fish and Wildlife.

d. If bats are found roosting outside of the nursery season (May 1 through October 1), California Department of Fish and Wildlife will be consulted prior to any eviction or other action. If avoidance or postponement is not feasible, a Bat Eviction Plan will be submitted to California Department of Fish and Wildlife for written approval prior to project implementation. A request to evict bats from a roost includes details for excluding bats from the roost site and monitoring to ensure that all bats have exited the roost prior to the start of activity and are unable to re-enter the roost until activity is completed. Any bat eviction will be timed to avoid lactation and young-rearing. If bats are found roosting during the nursery season, they will be monitored to determine if the roost site is a maternal roost. This could occur by either visual inspection of the roost bat pups, if possible, or by monitoring the roost after the adults leave for the night to listen for bat pups. Because bat pups cannot leave the roost until they are mature enough, eviction of a maternal roost cannot occur during the nursery season. Therefore, if a maternal roost is present, a 50-foot buffer zone (or different size if determined in consultation with the California Department of Fish and Wildlife) will be established around the roosting site within which no construction activities including tree removal or structure disturbance will occur until after the nursery season.

BIO-5 To avoid impacts to loggerhead shrike and other nesting birds during the nesting season (January 15 through September 15), all construction activities should be conducted between September 16 and January 14, which is outside of the bird nesting season. If construction or project-related work is scheduled during the nesting season (February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors), the City of Newman will engage a qualified biologist to conduct nesting bird surveys.

a. Two surveys for active bird nests will occur within 14 days prior to start of construction, with the final survey conducted within 48 hours prior to construction. Appropriate minimum survey radii surrounding each work area are typically 250 feet for passerines, 500 feet for smaller raptors, and 1,000 feet for larger raptors. Surveys will be

conducted at the appropriate times of day to observe nesting activities. Locations off the site to which access is not available may be surveyed from within the site or from public areas. If no nesting birds are found, a letter report confirming absence will be prepared by the biologist and submitted to the California Department of Fish and Wildlife and the City of Newman Public Works Department, where it will be kept on file, and no further mitigation is required.

b. If the qualified biologist documents active nests within the project site or in nearby surrounding areas, an appropriate buffer between each nest and active construction will be established. The buffer will be clearly marked and maintained until the young have fledged and are foraging independently. Prior to construction, the qualified biologist will conduct baseline monitoring of each nest to characterize "normal" bird behavior and establish a buffer distance, which allows the birds to exhibit normal behavior. The qualified biologist will monitor the nesting birds daily during construction activities and increase the buffer if birds show signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and/or flying away from the nest). If buffer establishment is not possible, the qualified biologist or construction foreman will have the authority to cease all construction work in the area until the young have fledged and the nest is no longer active. Once the absence of nesting birds has been confirmed, a letter report will be prepared by the biologist and submitted to the City of Newman Public Works Department, where it will be kept on file, and no further measures are required.

Cultural Resources

CR-1 The following information will be included on all bid and construction documents and shall be implemented during all project ground-disturbing activity.

If any prehistoric or historic subsurface archaeological resources, including tribal cultural resources, are discovered during ground-disturbing activities, the following measures will be implemented:

a. All work within 50 meter (165 feet) of the resources will be halted and a qualified archaeologist will be consulted to assess the significance of the find according to CEQA Guidelines Section 15064.5.

b. If any find is determined to be significant, representatives from the City of Newman Public Works Department and the archaeologist will meet to determine the appropriate avoidance measures or other appropriate mitigation.

c. All significant prehistoric cultural materials and or tribal cultural resources recovered will be returned to Native American tribes traditionally and culturally affiliated with the area.

d. In considering any suggested mitigation proposed by the consulting archaeologist to mitigate impacts to historical resources or unique archaeological resources, the City will

determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations.

e. If avoidance is infeasible, other appropriate measures (e.g., data recovery) will be implemented.

f. Work may proceed on other parts of the project site while mitigation for historical resources or unique archaeological resources is being carried out.

CR-2 The following information will be included on all bid and construction documents and shall be implemented during all project ground-disturbing activity.

California Health and Safety Code Section 7050.5 and the CEQA Guidelines Section 15064.5(e) contain the mandated procedures of conduct following the discovery of human remains. According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery will cease and necessary steps to ensure the integrity of the immediate area will be taken. The Stanislaus County Coroner will be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner will notify the Native American Heritage Commission within 24 hours, who would, in turn, notify the person the Native American Heritage Commission identifies as the Most Likely Descendant of any human remains. Further actions will be determined, in part, by the desires of the Most Likely Descendant. The Most Likely Descendant has 48 hours to make recommendations regarding the disposition of the remains following notification from the Native American Heritage Commission of the discovery. If the Most Likely Descendant does not make recommendations within 48 hours, the City will coordinate with the owner to, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the Most Likely Descendant's recommendations, the owner or the descendent may request mediation by the Native American Heritage Commission.

Geology and Soils

GEO-1 The following language shall be included in all demolition and grading permits: "If paleontological resources are discovered during demolition and earthmoving activities, work shall stop within 100 feet of the find until a qualified paleontologist can assess if the find is unique and, if necessary, develop appropriate treatment measures in consultation with the City of Newman Public Works Department Director or his/her designate."

Noise

N-1 The following will be implemented during construction of the project, pursuant to General Plan Policy HS-6.9:

a. Construction activities shall normally be limited to the hours of 7AM to 7PM Monday through Friday, and 8AM to 7PM on Saturday. Construction Use available noise suppression devices and properly maintain and muffle loud construction equipment.

b. Avoid stating of construction equipment and unnecessary idling of equipment within 200 feet of noise-sensitive land uses.

PUBLIC REVIEW DRAFT CEQA-PLUS INITIAL STUDY

NEWMAN INFLUENT TRUNK SEWER IMPROVEMENTS – PHASE II

PREPARED FOR

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A. BACKGROUND

Project Title	Newman Influent Trunk Sewer Improvements – Phase II
Lead Agency Contact Person and Phone Number	Kathryn Reyes, Public Works Director City of Newman 209-862-4448
Date Prepared	March 16, 2023
Study Prepared by	EMC Planning Group Inc. 601 Abrego Street Monterey, CA 93940
Project Location	City of Newman County of Stanislaus County of Merced
Project Sponsor Name and Address	City of Newman 938 Fresno Street P.O. Box 787 Newman, CA 95360
General Plan Designation	City of Newman: Rural Residential, Agricultural, Single Family Residential, Light Industrial Stanislaus County: Agricultural Merced County: Agriculture
Zoning	Stanislaus County: General Agriculture 40 Acre Merced County: A-1 General Agriculture

Regional Setting

The City of Newman (city) lies on the west side of the San Joaquin Valley, along the southern boundary of Stanislaus County, just west of the confluence of the San Joaquin River and the Merced River. The southeastern city limit adjoins unincorporated Merced County. The project site is located along and immediately east of the northeast city limit. Figure 1, Location Map, shows the general location of the proposed project.

Background

The City of Newman owns and operates a wastewater treatment and reclamation facility (WWTRF) located northeast of the city. The WWTRF treats all of the wastewater from Newman, which is collected in two parallel trunk lines, an 18-inch in diameter pipe, and a 21-inch in diameter pipe, that extend from the corner of Canal School Road and Hills Ferry Road through

active agricultural fields to the headworks of the WWTRF. Access to the existing lines is constrained by their location in active agricultural fields. To provide a long-term solution for multiple failures that have occurred over time in the existing lines, the *Preliminary Environmental Constraints Assessment* (Stantec 2022b) (constraints assessment), was prepared. As noted in the constraints assessment, the city has decided to replace the entire two-mile long influent sewer trunk line to prevent future catastrophic system failures in the existing pipelines that would result in spills and hazards to the environment.

Figure 2, Aerial Photograph, shows the existing sewer influent trunk line in blue and the location of the WWTRF approximately one mile northeast of Newman, west of the San Joaquin River, and southeast of Hills Ferry Road. The city's trunk line improvements would be constructed in two phases, Phase I, shown in orange and Phase II, shown in red. To address immediate trunkline deficiencies near the WWTRF, the city filed an emergency CEQA categorical exemption for the Phase I construction of replacement pipe extending from the headworks toward the city. The city is currently accepting bids to construct the Phase I improvements. No federal funding was requested for the Phase I improvements.

Description of Project

Environmental Setting

The proposed Phase II improvement (proposed project) alignment is shown in Figure 3, Proposed Project. The project site is bounded by Hills Ferry Road, a residential subdivision and a park on the northwest and a nut orchard on the southeast. Swamp Rats Road is bounded on both sides by rows of eucalyptus trees and on the northeast side by a residence, several outbuildings, and Newman Swamp Rats Shooting Range. Beyond the rows of eucalyptus trees on Swamp Rats Road are extensive orchards, and a disked field is located southeast of the final section of the Phase II route. Aquatic features near the project site include the Newman Waste-Way, a canal approximately one half-mile to the east. The plan set sheet numbers shown on Figure 3 correspond with the sheets within the proposed plans included in Appendix A. The plan set shown in Appendix A includes plans for both Phase I and Phase II, however, only Phase II is analyzed in this initial study.

Physical Improvements

Proposed Phase II improvements consist of approximately 5,125 feet of 36-inch in diameter sewer line and 16 sewer manholes between Canal School Road and the Phase I connection. The connection to Phase I is shown on Sheet C-20 of the project plans and includes an additional 40 feet of 24 inch by 38-inch oval storm drains with four storm drain manholes (Aronow, email message, December 12, 2022).

Construction of the proposed improvements within the Canal School Road and Hills Ferry Road would occur within the 40-foot to 60-foot-wide public rights-of-way and on privately owned roads would occur within the roadbeds that are generally 20 feet wide. Construction of the proposed project would include trenching up to approximately 10 feet deep and up to 10 feet wide in pavement and dirt roads along the new sewer route. Construction and access easements

would be required for the portion of the proposed project along the privately owned roads. Although the proposed route avoids placing the trunk line within actively farmed areas, the area of potential disturbance (access, trenching and temporary excavation spoil stockpiling) shown on the project plans, is about 30 feet wide and overlaps slightly with tilled acreage. Farming activities within this area may be temporarily suspended during construction. Proposed construction activities in public rights-of-way would include removal and replacement of asphalt, removing and resetting traffic signs, and replacing pavement markings and bicycle lane markings within public right-of-way. The existing 21-inch and 18-inch sewer trunk lines would be abandoned in place and there would be no increase in WWTRF treatment capacity.

The total disturbance area would be approximately 2.37 acres (5,125 plus 40 feet linear feet = 5,165 linear feet x approximately 20-foot-wide disturbance area = 103,300/43,560 = 2.37 acres.

Tree Removal and Construction Schedule and Staging

One tree, a goldenrain tree (*Koelreuteria bipinnata*), outside of the Newman city limits in Merced County would be removed according to the plan set (Drawing No. C-19).

Construction is expected to begin sometime in 2024, and is expected to last for approximately 10 months. An approximately five-acre construction equipment and materials staging area would be located on a vacant parcel located in unincorporated Stanislaus County north of Swamp Rats Road and the Newman Swamp Rats Shooting Range. The staging area would be accessed from Hills Ferry Road, and is identified in Figure 3, Proposed Project. This parcel has not been in agricultural production since about 2014 (Google, Inc. 2023).

Funding

The proposed project is eligible for funding from the State Water Resources Control Board (State Water Board), Division of Financial Assistance, which administers the Clean Water State Revolving Fund (CWSRF) Program pursuant to 40 Code of Federal Regulations Part 35. The city is seeking funding from these programs to assist in financing the proposed project. The CWSRF loan fund is capitalized by federal grants, state match money, loan repayments, and other earnings of the fund. Projects that are supported with funds directly made available by federal capitalization grants (i.e., projects funded in amounts equaling the grant), called federally assisted projects, must comply with several federal and state legal requirements including California Environmental Quality Act (CEQA) review. Therefore, this CEQA Plus document considers the potential environmental impacts associated with Phase II of the influent trunk improvements (proposed project).

Property Ownership

No federal lands are affected. Parcels to be affected by the proposed project are owned by the following entities:

1. City of Newman – Wastewater Treatment and Reclamation Facility (WWTRF)
2. County of Stanislaus –Public Roadways
3. Possible Easements - Private Roadways (Assessor's Parcel Numbers 049-042-004 – 007)

Project Objectives

The City of Newman Influent Sewer Improvement Project objectives are to:

- Completely replace the existing 18-inch and 21-inch trunk lines with a single line with sufficient capacity to service existing and future needs of the City, and of a material resistant to deterioration and damage from vehicle traffic;
- Construct the project within existing right-of-way and farm roads to minimize capital costs and avoid traversing agricultural lands in active cultivation during construction or long-term maintenance activity;
- Minimize conflicts with existing facilities; and
- Allow for maintenance access to the system.

Improving the city's influent sewer trunk line will have multiple benefits for the city and its residents. Addressing the trunks failing condition will prevent the risk of sewer overflows and spills that can be a hazard to public safety, the environment, existing infrastructure, and potential damage to private property.

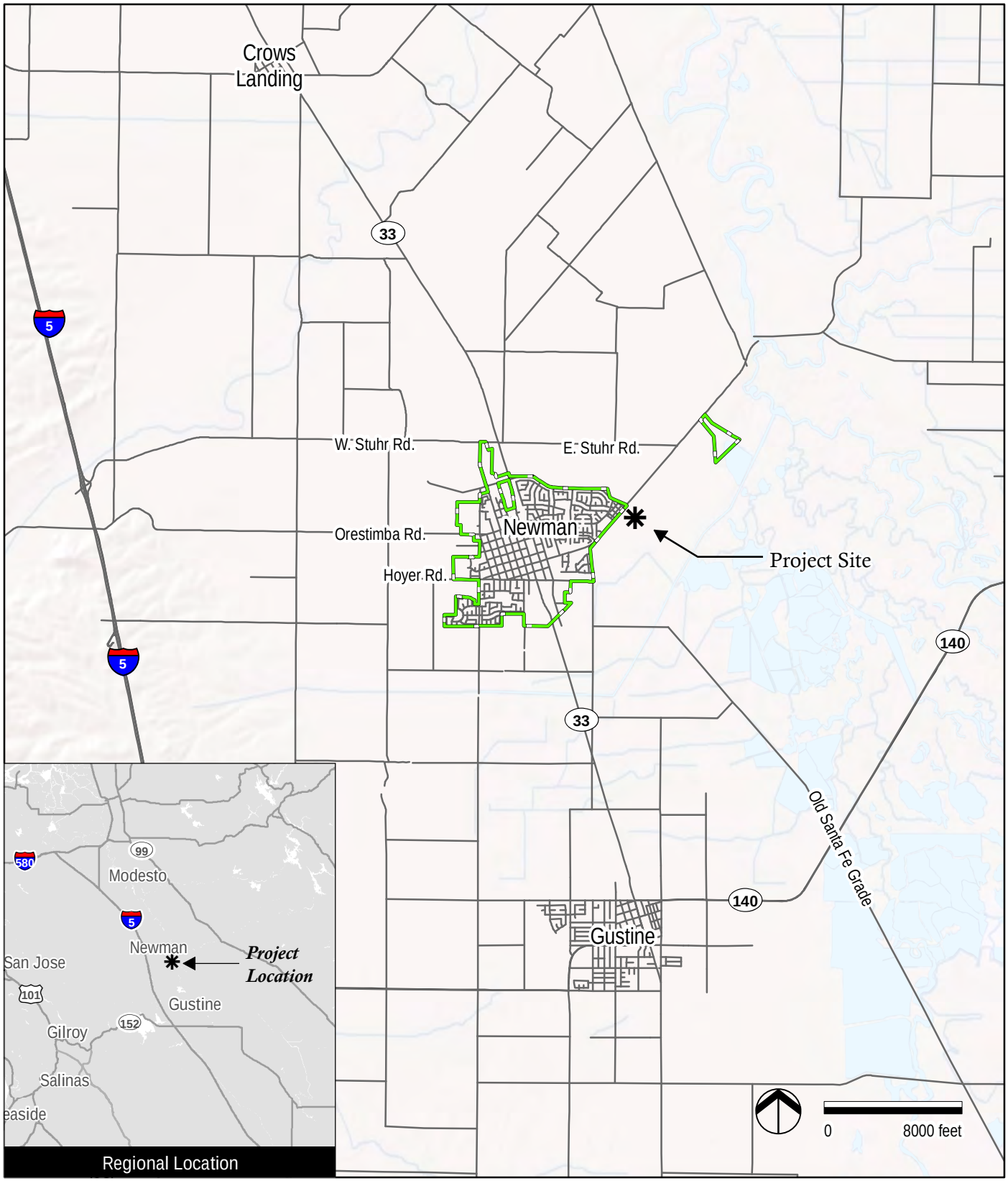
Other Public Agencies Whose Approval is or May be Required

- State Water Resources Control Board, Division of Financial Assistance
- Regional Water Quality Control Board
- County of Stanislaus
- County of Merced

Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

The City of Newman has not received any requests for consultation pursuant to Public Resources Code section 21080.3.1from California Native American tribes traditionally and culturally affiliated with the project area. However, because the proposed project may receive federal fundings, tribal consultation has been initiated to comply with federal requirements. See Section 18.0, Tribal Cultural Resources, in this CEQA-Plus initial study.



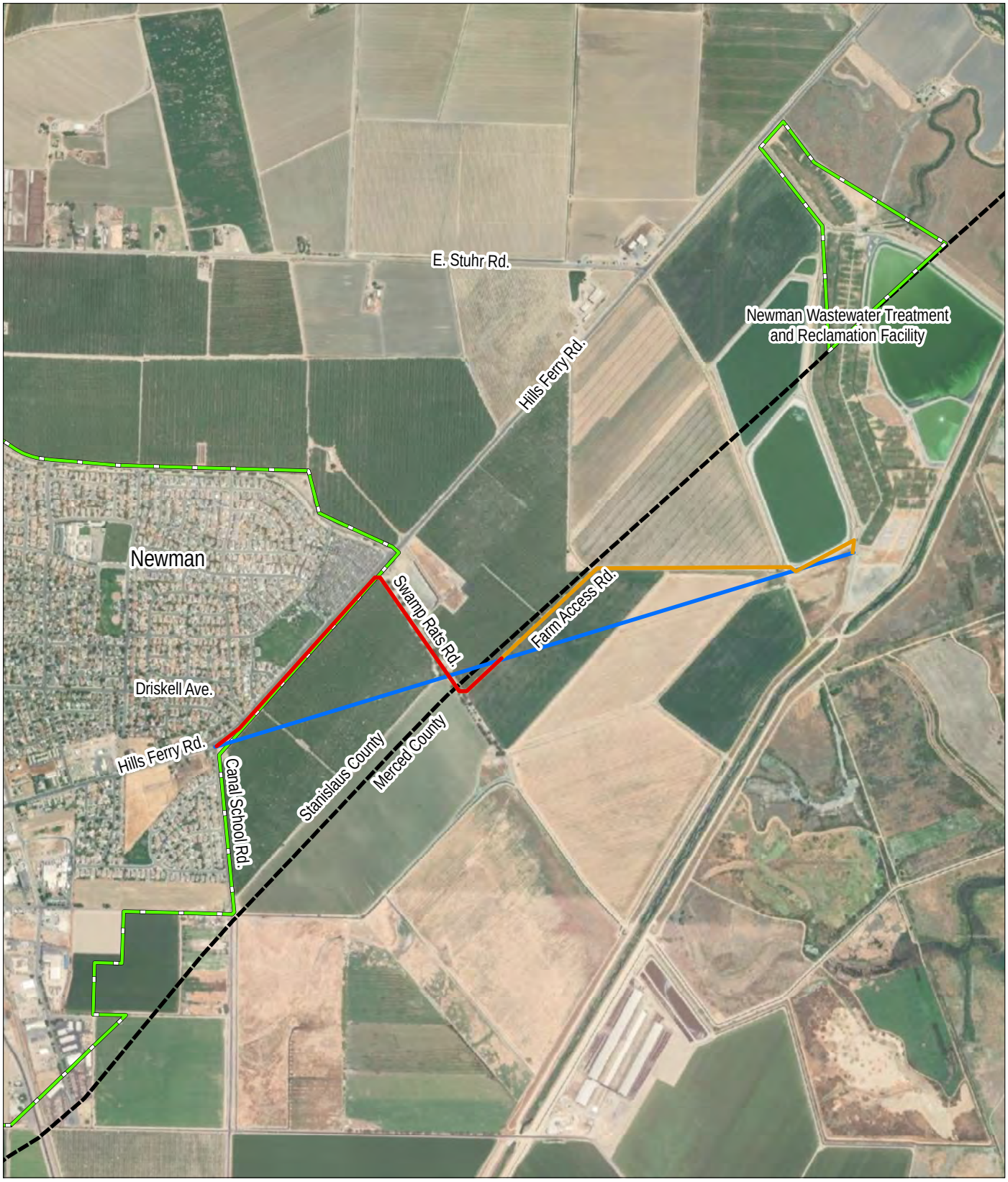
Source: ESRI 2014

Figure 1

Project Location

Newman Sewer Influent Trunk Line Improvements – Phase II CEQA-Plus Initial Study

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Source: Stanislaus County GIS 2022, Google Earth 2022, Stantec 2022

Figure 2

Aerial Photograph

Newman Sewer Influent Trunk Line Improvements – Phase II CEQA-Plus Initial Study

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Source: Stantec 2022

Figure 3

Proposed Project

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B. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- ☐ Aesthetics
- ☐ Agriculture and Forestry Resources
- ☐ Air Quality
- ☐ Biological Resources
- ☐ Cultural Resources
- ☐ Energy
- ☐ Geology/Soils
- ☐ Greenhouse Gas Emissions
- ☐ Hazards & Hazardous Materials
- ☐ Hydrology/Water Quality
- ☐ Land Use/Planning
- ☐ Mineral Resources
- ☐ Noise
- ☐ Population/Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation
- ☐ Tribal Cultural Resources
- ☐ Utilities/Service Systems
- ☐ Wildfire
- ☐ Mandatory Findings of Significance

C. DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (1) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (2) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ April 20, 2023

Kathryn Reyes, Public Works Director Date

D. Evaluation of Environmental Impacts

Notes

1. All answers take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
2. Once it has been determined that a particular physical impact may occur, then the checklist answers indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
3. "Negative Declaration: Less-Than-Significant Impact with Mitigation Measures Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from section XVII, "Earlier Analyses," may be cross-referenced).
4. Earlier analyses are used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. [Section 15063(c)(3)(D)] In this case, a brief discussion would identify the following:
    a. "Earlier Analysis Used" identifies and states where such document is available for review.
    b. "Impact Adequately Addressed" identifies which effects from the checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and states whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. "Mitigation Measures"—For effects that are "Less-Than-Significant Impact with Mitigation Measures Incorporated," mitigation measures are described which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
5. Checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances, etc.) are incorporated. Each reference to a previously prepared or outside document, where appropriate, includes a reference to the page or pages where the statement is substantiated.
6. "Supporting Information Sources"—A source list is attached, and other sources used or individuals contacted are cited in the discussion.
7. The explanation of each issue identifies:
    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any to reduce the impact to less than significant.

1. AESTHETICS

Except as provided in Public Resources Code Section 21099 (Modernization of Transportation Analysis for Transit-Oriented Infill Projects), would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b.	Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c.	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d.	Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Comments:

a, c, d. A permanent change to the visual character or visual quality of a project site could be considered a potentially substantial change. During construction, disturbance areas would include public rights-of-way, private roadways, areas directly adjacent to the private roadways for access, trenching and temporary excavation spoil stockpiling, and a staging area for construction (as shown on Figure 3, Proposed Project). Disturbed areas, construction equipment, and related construction materials would be temporarily visible. Construction would occur only during daylight hours and upon project completion, the subsurface improvements would not be visible and all disturbed areas would be returned to their previous condition. Therefore, the proposed project would not have a permanent adverse effect on a scenic vista, substantially degrade the existing visual character or quality of public views of the site and its surroundings, or result in new sources of light and glare.

b. The closest state designated scenic highway is State Route 5, which is over five miles distant from the project site (California Department of Transportation 2022), and the project site would not be visible from State Route 5. Therefore, the proposed project would not affect scenic resources within a state scenic highway.

2. AGRICULTURE AND FOREST RESOURCES

In determining whether impacts on agricultural resources are significant environmental effects and in assessing impacts on agriculture and farmland, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	☐	☐	☒	☐
b.	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Comments:

a. According to the *2018 Stanislaus County Important Farmland Map*, the portion of the site along Hills Ferry Road and Swamp Rats Road within Stanislaus County is classified as Unique Farmland. The construction staging area is designated as vacant or disturbed land and does not include any important farmland. Additionally, according to the *2018 Merced County Important Farmland Map,* the portion of the project along the dirt farm road that lies within Merced County is classified as Unique Farmland. Although the proposed route

avoids placing the trunk line within actively farmed areas, the area of potential disturbance (access, trenching, and temporary excavation spoil stockpiling) shown on the project plans is about 30 feet wide on each side of the trench and overlaps slightly with tilled acreage identified as Unique Farmland. Farming activities within this area may be temporarily suspended during construction. However, any temporarily disturbed area would be returned to its previous condition upon project completion and permanent conversion of the land designated as Unique Farmland is not required or proposed. Therefore, the impact would be less than significant.

b. The proposed project site includes land with agricultural zoning designations. There are no parcels subject to Williamson Act contracts within the project site; all parcels are under active crop production. Proposed construction would occur within paved rights-of-way and unpaved farm roads. Project implementation would not conflict with land zoned for agricultural uses or land under Williamson Act contract.

c, d. There are no forested areas or land zoned for forest land in the project site. Therefore, no impact to timber or forest resources would occur.

e. While the proposed sewer alignment would be within roads that run through or adjacent to areas of active agricultural land and may cause a temporary inconvenience to farming operations during construction, the proposed project does not include any components that would result in the conversion of farmland or forest land. The proposed project would reduce or eliminate disruptions to active agricultural activities by decommissioning in place, the existing sewer influent trunk line that runs through agricultural fields, and by placing the new sewer influent trunk within existing roads.

3. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d.	Result in other emissions, such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☒	☐

Comments:

The city of Newman is within the San Joaquin Valley Air Basin (air basin), which is under the jurisdiction of the San Joaquin Valley Air Pollution Control District ("air district" or "SJVAPCD"). This section is based primarily on the air district's Guidance for Assessing and Mitigating Air Quality impacts (GAMAQI) (SJVAPCD 2015) and the results of emissions modeling using the California Emission Estimation Model (CalEEMod) version 2020.4 software. CalEEMod results are included in Appendix B.

a, b. The air district is responsible for assuring that national and state ambient air quality standards are attained and maintained in the air basin. CEQA requires that proposed projects be analyzed for conflicts with applicable air quality plans. An air quality plan describes air pollution control strategies to be implemented by a city, county, or region classified as a non-attainment area. The main purpose of an air quality plan is to bring the area into compliance with the requirements of the federal and State ambient air quality standards.

The air basin encompasses the San Joaquin Valley with Sierra Nevada Mountains to the east, the Coast Ranges to the west, and the Tehachapi mountains to the south. Airflow is considerably affected by summertime inversions at lower elevations than the surrounding topography and as a result can lead to a buildup of ozone and ozone precursor pollutants within the basin. Wintertime inversions trap air near the ground and can lead to buildup of particulate matter air pollutants.

According to the air district's website (SJVAPCD 2022), the primary air pollutants of concern in the air basin are ozone and particulate matter, for which the air basin is in nonattainment for the federal and state standards for ozone (eight-hour) and $PM_{2.5}$, and with the state standards for ozone (one hour) and PM_{10}. The air basin is either unclassified or in attainment with all other state and federal ambient air quality standards.

The air district adopted the *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards* on November 15, 2018 (SJVAPCD 2018) (2018 $PM_{2.5}$ Plan) that set forth an attainment target to address the EPA federal 1997 annual $PM_{2.5}$ standard by 2020. However, this target could not be met within the established timeframe due to significant wildfire impacts and data collection issues at the air monitoring site in Bakersfield. In response, the air district prepared and adopted the *Attainment Plan Revision for the 1997 Annual $PM_{2.5}$ Standard* (SJVAPCD 2021) that revises the attainment target date to December 31, 2023.

The air district has adopted thresholds, rules and regulations to implement the 2018 $PM_{2.5}$ Plan and address ozone and particulate matter emissions in the air basin. The air district's Indirect Source Review Rule (Rule 9510) includes emissions reduction measures for ozone precursor and PM_{10} emissions generated by construction and operational activities. Construction emissions that exceed air district thresholds would be subject to the air district-approved mitigation measures stated under Rule 9510. Additionally, air district Rule 3180 requires the payment of fees based on estimated costs to reduce the emissions from other sources plus expected costs to cover administration of the program to address the unmitigated portion of a project's emissions.

The air district controls fugitive dust PM_{10} emissions through Regulation VIII, the purpose of which is to reduce ambient concentrations of PM_{10} by requiring actions to prevent, reduce or mitigate anthropogenic (human caused) fugitive dust emissions. Emissions reduction measures also reduce $PM_{2.5}$ emissions. Regulation VIII requires the preparation of dust control plans that include district-approved measures to reduce fugitive dust, and the payment of fees to cover costs for reviewing plans and conducting field inspections.

The proposed project would generate criteria air pollutant emissions during construction that would contribute to regional ambient air quality conditions. As noted previously, criteria air pollutant emissions generated during construction were modeled using CalEEMod. According to the results, construction of the project would not generate emissions that would exceed air district thresholds for any criteria air pollutant. Therefore, project emissions of ozone precursors and fugitive dust would be less than significant and would not conflict with or jeopardize successful implementation of the 2018 $PM_{2.5}$ Plan.

Modeled emissions show that the largest volumes generated during construction would be 1.25 tons of NOx annualized over one year. Therefore, the proposed project's contribution to cumulative emissions of ozone precursors or PM, for which the air basin is in nonattainment, would not be cumulatively considerable. Results for all modeled criteria air pollutants are summarized and compared to air district thresholds in Table 1, Unmitigated Construction Emissions.

Table 1 Unmitigated Construction Emissions (Tons per Year)

	ROG	NO_x	CO	SO_x	Total PM_{10}[2]	Total $PM_{2.5}$[2]
Construction Emissions[1]	0.15	1.25	1.01	< 0.01	0.37	0.18
Air District Thresholds	10.00	10.00	100.00	27.00	15.00	15.00
Exceed Thresholds? (Yes/No)	NO	NO	NO	NO	NO	NO

SOURCE: EMC Planning Group 2022, SJVAPCD 2022

NOTE:

1. Amounts are rounded and may vary.
2. Total PM_{10} and $PM_{2.5}$ volumes include exhaust and fugitive dust emissions.

Although modeled construction emissions do not exceed the air district standards, the city is required to comply with the emissions reduction measures identified in Rule 9510 and Regulation VIII to ensure that the project construction emissions are reduced and the proposed project is consistent with the air district's efforts to achieve the basin-wide reduction targets established in the 2018 $PM_{2.5}$ Plan.

Rule 9510 requires that projects reduce construction NOx exhaust emissions by 20 percent and construction PM_{10} exhaust emissions by 45 percent. These reductions are typically achieved by using newer or retrofitted construction fleets, reducing construction traffic, electrifying the construction site and stationary equipment, and implementing idling restrictions for equipment and trucks. Compliance with Rule 9510 would further reduce the project's less than significant construction NOx and PM_{10} emissions.

Regulation VIII calls for the implementation of fugitive dust control measures during construction. A dust control plan is required subject to review and approval by the air district prior to construction as part of the city's grading and building permit application process. The dust control plan must outline control measures for each phase of construction, which may include all or a combination of the following measures, consistent with Regulation VIII:

- Effective dust suppression (e.g., watering) for land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill and demolition activities.
- Effective stabilization of all disturbed areas of a construction site, including storage piles, not used for seven or more days.
- Control of fugitive dust from on-site unpaved roads and off-site unpaved access roads.
- Removal of accumulations of mud or dirt at the end of the workday or once every 24 hours from public paved roads, shoulders and access ways adjacent to the site.
- Cease outdoor construction activities that disturb soils during periods with high winds.
- Record keeping for each day dust control measures are implemented.
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

- Landscape or replant vegetation in disturbed areas as quickly as possible.
- Prevent the tracking of dirt on public roadways. Limit access to the construction sites, so tracking of mud or dirt on to public roadways can be prevented. If necessary, use wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Suspend grading activity when winds (instantaneous gusts) exceed 25 mph or dust clouds cannot be prevented from extending beyond the site.
- Anyone who prepares or implements a dust control plan must attend a training course conducted by the air district. Construction sites are subject to air district inspections under this regulation.

The city is required to implement the above measures consistent with Regulation VIII. Compliance with Regulation VIII ensures that the less-than-significant construction PM_{10} emissions are further reduced.

c. Diesel particulate matter is emitted by construction equipment and is a toxic air contaminant (TAC). Long term exposures to TACs can result in respiratory illness and cancer. Construction activity would result in temporary emissions of diesel particulate matter. Prevailing winds in Stanislaus County are from the north and northwest. Located within 30-50 feet of the project site, sensitive receptors north of Canal School Road and Hills Ferry Road could occasionally be exposed to construction equipment exhaust and dust emissions that can lead to increased health risks.

Construction emissions would be short term and would occur downwind of the receptor locations on Canal School Road and Hills Ferry Road. Additionally, modeled PM_{10} emissions (assumed to diesel particulate matter) volumes are substantially lower than the air district thresholds and with implementation of the emissions reduction measures outlined in the air district's Regulation VIII and Rule 9510, equipment and dust emissions would be further reduced. Once construction activity moves to the privately owned farm roads, no sensitive receptors are present that could be exposed to project TAC emissions.

d. Odors are objectionable emissions of one or more pollutants that are a nuisance to healthy persons and may trigger asthma episodes in people with sensitive airways. Nuisance odors are commonly associated with refineries, landfills, sewage treatment, agriculture, etc. The proposed trunk line is not anticipated to produce offensive odors during project construction or after the project is completed and operational. Therefore, the proposed project would not create significant objectionable odors affecting a substantial number of people.

4. BIOLOGICAL RESOURCES

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☒	☐	☐
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☐	☐	☒
c.	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.), through direct removal, filing, hydrological interruption, or other means?	☐	☐	☐	☒
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Comments:

Methodology

The following analysis evaluates the potential for biological resources to be impacted by the proposed Newman Influent Trunk Sewer Project – Phase II (hereafter, sewer trunk line). The evaluation is primarily based on review of the proposed project description, results of records research relevant to the project area, a reconnaissance-level biological field survey of the project site, and information in the technical memorandum: *Preliminary Environmental Constraints Assessment*

for the City of Newman Influent (Stantec 2022b). The reconnaissance-level survey was conducted by EMC Planning Group senior biologist Patrick Furtado, M.S., on November 14, 2022. Prior to performing the field survey, Mr. Furtado conducted background research including the review of construction site plans, aerial photographs, natural resource database mapping and reports, and other relevant scientific literature. This included searching the U.S. Fish and Wildlife Service (USFWS) *Information for Planning and Consultation* (IPaC) official species list (USFWS 2023), the California Department of Fish and Wildlife (CDFW) *California Natural Diversity Database* (CDFW 2022a), and the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants* (CNPS 2022) to identify special-status plants, wildlife, and habitats known to occur in the vicinity of the project site. A review of the *National Wetlands Inventory* (NWI) database was also conducted to identify jurisdictional aquatic features (wetlands, drainages, and/or riparian areas) on or adjacent to the project site (USFWS 2022a).

The reconnaissance-level biological field survey of the project site documented existing plant communities and wildlife habitats and evaluated the potential for special-status species to occur in the project area. Biological resources were documented in field notes, including species observed, dominant plant communities, significant wildlife habitat characteristics, and riparian and wetland habitat. Qualitative estimations of plant cover, structure, and spatial changes in species composition were used to determine plant communities and wildlife habitats. Habitat quality and disturbance levels were described. Plant species were identified in the field or collected for subsequent identification. Searches for reptiles and amphibians were performed by overturning and then replacing rocks and debris, as well as assessment of potentially suitable habitat areas found on the site. Birds were identified by visual and/or auditory recognition and mammals were identified by diagnostic signs (including scat and tracks).

Environmental Setting and Existing Conditions

The city is located on the west side of the San Joaquin Valley in Stanislaus County, adjacent to the boundary with Merced County. The project site is located along and immediately east of the northeast city limits (Figure 1, Location Map). The site is within the Central Valley Bioregion, which encompasses a diversity of plant communities, which range from oak woodlands and grasslands to riparian forests. The bioregion is also California's top agricultural area.

The project site is mapped on the Newman and Gustine U.S. Geological Survey (USGS) quadrangle maps, with approximate elevations of 83 feet above sea level at Canal School Road (start of Phase II sewer trunk line) and 75 feet above sea level at the proposed construction staging area along Hills Ferry Road.

The sewer trunk line route begins along the northeastern city limit of Newman at the intersection of Canal School Road and Hills Ferry Road. It then travels northeast along Hills Ferry Road for 2800 feet before turning southeast and away from Newman on Swamp Rats Road. After traveling for 1700 feet on Swamp Rats Road, the sewer line route turns northeast again on a dirt farm road ("Farm Access Road") where it ends after approximately 300 feet (Stantec 2022a). The last 400 feet of the sewer line route is within Merced County.

Hills Ferry Road is bounded by a residential area and a park on the northwest and a nut orchard on the southeast. Swamp Rats Road is bounded on both sides by rows of eucalyptus trees and on the northeast side by a residence, several outbuildings, and a developed shooting range. Beyond the rows of eucalyptus trees are extensive orchards and a disked field is located southeast of the final section of the Phase II route. Aquatic features near the project site include the Newman Waste-Way, a canal approximately one half-mile to the east.

The project site is limited to roads and roadsides with adjacent agricultural and developed land. No native plant communities or habitats are present or adjacent to the project site. The agricultural lands include orchards, disked fields, and ruderal (weedy) areas. These developed and agricultural habitats adjacent to the project site support a low diversity of plants and wildlife species that are adapted to these intensely managed and relatively disturbed environments. Figure 4, Habitat Map, shows the proposed sewer trunk line project area and plant and wildlife habitats present.

The ruderal roadside habitat is sparsely vegetated with non-native grasses such as wild oats (*Avena fatua*) and weedy forbs such as cheeseweed (*Malva parviflora*). Other weedy plants observed along the sewer line route include prickly lettuce (*Lactuca serriola*), milk thistle (*Silybum marianum*), sweetclover (*Melilotus* sp.), Russian thistle (*Salsola tragus*), and curly dock (*Rumex crispus*). Tree species included non-native blue gum eucalyptus (*Eucalyptus globulus*), goldenrain tree (*Koelreuteria bipinnata*), and tree of heaven (*Ailanthus altissima*). Plant cover required by many animal species is likely removed through the regular application of herbicides as part of routine agricultural operations.

Small rodent burrows were observed along most of the sewer trunk line route and are likely used by Botta's pocket gopher (*Thomomys bottae*) and California ground squirrel (*Otospermophilus beecheyi*). Other wildlife observed along the sewer trunk line include many bird species such as killdeer (*Charadrius vociferus*), American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), Brewer's blackbird (*Euphagus cyanocephalus*), mourning dove (*Zenaida macroura*), western meadowlark (*Sturnella neglecta*), northern harrier (*Circus hudsonius*), and ring-necked pheasant (*Phasianus colchicus*). Coyote (*Canis latrans*) tracks and scat were also observed along the sewer line route.

Common mammal species that could utilize the agricultural/ruderal habitat along the sewer trunk line route include raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), black-tailed jackrabbit (*Lepus californicus*), gray fox (*Urocyon cinereoargenteus*), and Virginia opossum (*Didelphis virginiana*). Species of small rodents including mice (*Mus musculus, Reithrodontomys megalotis*, and *Peromyscus maniculatus*) and California vole (*Microtus californicus*) are also likely to occur along the route. Common reptiles that could occur along the sewer line route include western fence lizard (*Sceloporus occidentalis*), Pacific gopher snake (*Pituophis catenifer catenifer*), and common garter snake (*Thamnophis sirtalis*). Bird species that could use the agricultural/ruderal habitat along the sewer trunk line route include great horned owl (*Bubo virginianus*), barn owl (*Tyto alba*), turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), western kingbird (*Tyrannus verticalis*), and barn swallow (*Hirundo rustica*).

A proposed staging area is located just north of the sewer line route on Hills Ferry Road. This approximately five-acre site consists of mowed grasses with dozens of small rodent burrows. The southeast end of this area is covered in earthen mounds and shrubs.

a. **Special-Status Species.** Special-status species are those listed as Endangered, Threatened, or Rare, or as candidates for listing by the USFWS and/or CDFW; as Species of Special Concern or Fully Protected species by the CDFW; or as Rare Plant Rank 1B or 2B species by CNPS. Appendix C, Special-Status Species in the Project Vicinity, presents tables with database search results, and lists special-status species documented within the project vicinity, their listing status and suitable habitat description, and their potential to occur on the project site. Figure 5, California Natural Diversity Database Map, presents a map of database results.

Given the disturbed and agriculturally developed condition of the project site, the lack of native vegetation, and the site's isolation from high quality habitat areas, most special-status plant and animal species known to occur in the region are not expected to occur on the project site due to lack of suitable habitats. No special-status plant or animal species were observed during the biological survey.

Special-status plant and wildlife species recorded as occurring in the vicinity of the project site but are not likely to occur on the project site due to lack of suitable habitat include Delta button-celery (*Eryngium racemosum*), alkali milk-vetch (*Astragalus tener* var. *tener*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), tricolored blackbird (*Agelaius tricolor*), California horned lark (*Eremophila alpestris actia*), giant garter snake (*Thamnophis gigas*), western spadefoot (*Spea hammondii*), and western pond turtle (*Emys marmorata*).

Special-status wildlife species with a low potential to occur on the project site include San Joaquin kit fox (*Vulpes macrotis mutica*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), hoary bat (*Lasiurus cinereus*), pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), loggerhead shrike (*Lanius ludovicianus*), and protected nesting birds. These species are discussed further below.

San Joaquin Kit Fox. The San Joaquin kit fox is a federally-listed endangered species and a state-listed threatened species. The present range of the San Joaquin kit fox extends from the southern end of the San Joaquin Valley, north to Tulare County, and along the interior Coast Range valleys and foothills to central Contra Costa County. San Joaquin kit foxes typically inhabit annual grasslands or grassy open spaces with scattered shrubby vegetation but can also be found in some agricultural habitats and urban areas. This species needs loose-textured sandy soils for burrowing, and they also need areas that provide a suitable prey base, including black-tailed hare, desert cottontails, and California ground squirrels, as well as birds, reptiles, and carrion.



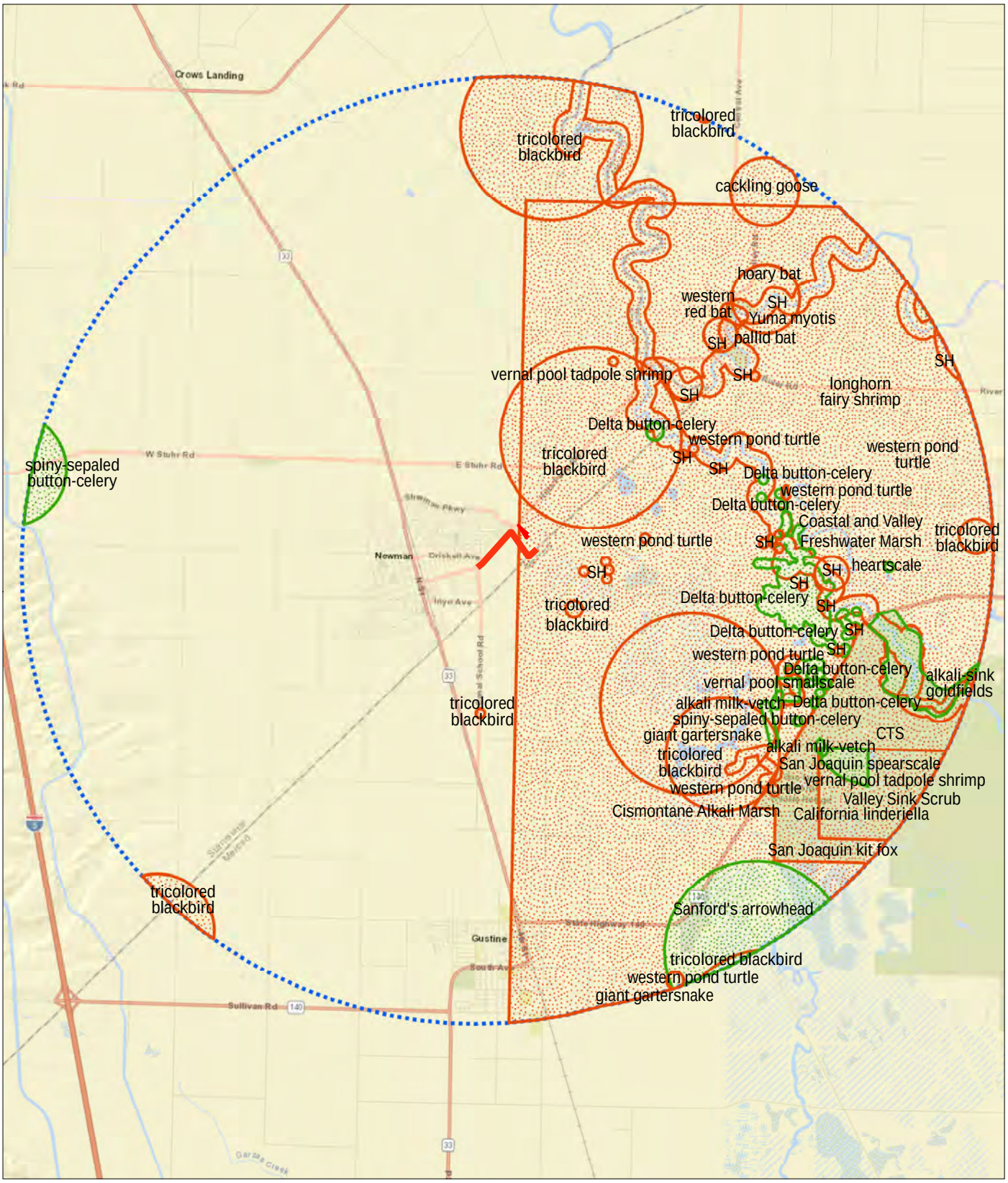
Source: Stanislaus County GIS 2022, Google Earth 2022, Stantec 2022

Figure 4

Habitat Map

Newman Sewer Influent Trunk Line Improvements – Phase II CEQA-Plus Initial Study

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0 8000 feet

Sewer Line Phase 2

Staging Area

5-Mile Radius

Special-Status Plants

Special-Status Wildlife

Source: ESRI 2022, CNDDB 2022

CTS - California Tiger Salamander

SH- Swainson's Hawk

Figure 5

California Natural Diversity Database Map

Newman Sewer Influent Trunk Line Improvements – Phase II CEQA-Plus Initial Study

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According to the California Department of Fish and Wildlife, kit foxes have become established in urban settings of the Central Valley, such as Bakersfield, Taft, and Coalinga (Harrison et. al 2011). When kit foxes have easy access to trash and pet food, they often lose fear of people and urban environments. The project site's location adjacent to the urban edge of Newman could potentially attract kit foxes. Observations of this species have been documented approximately six miles to the southwest of the project site (Occurrence No. 414, CNDDB 2022a) and approximately four miles to the southeast of the project site (Occurrence No. 600, CNDDB 2022a).

The likelihood of this species occurring on the project site is considered low. However, loss of or harm to individual kit foxes could result if they are present on the project site or seek shelter during construction within artificial structures, such as stored pipes or exposed trenches. Loss or harm to San Joaquin kit fox is considered a significant adverse impact. Implementation of the following mitigation measure would reduce the potential impact to San Joaquin kit fox to a less-than-significant level.

Mitigation Measure

BIO-1 The City of Newman will implement U.S. Fish and Wildlife Service *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011) prior to initiation of and during any construction activity on the project site to avoid unintended take of individual San Joaquin kit foxes.

Preconstruction/pre-activity surveys for San Joaquin kit fox will be conducted no less than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity that may impact San Joaquin kit fox. The surveys will include all work areas, including staging areas, and a minimum 200-foot buffer of the project site. The preconstruction surveys will identify kit fox habitat features on the project site, evaluate use by kit fox and, if possible, assess the potential impacts of the proposed activity. The status of all dens will be determined and mapped.

If a natal/pupping den is discovered within the project area or within 200 feet of the project boundary, the City of Newman will consult with the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service to establish an appropriate avoidance buffer. The avoidance buffer will be maintained until such time as the burrow is no longer active and/or an incidental take permit is determined to be required and is obtained.

In addition, the following measures will be observed:

a. Project-related vehicles will observe a 20-mph speed limit in all project areas; this is particularly important at night when kit foxes are most active. To the extent possible, night-time construction will be minimized. Off-road traffic outside of designated project area will be prohibited.

b. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of the project, all excavated, steep-walled holes or trenches more than two feet deep will be covered at the close of each working day by plywood or

similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures under number 11 of the Construction and Operational Requirements in the Standardized Recommendations must be followed.

c. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods will be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe will not be moved until the U.S. Fish and Wildlife Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.

d. All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed at least once a week from a construction or project site.

e. No firearms will be allowed on the project site during construction activities.

f. To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets will be permitted on site during construction activities.

g. Use of rodenticides and herbicides on the project site during construction will be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds will observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the U.S. Fish and Wildlife Service. If rodent control must be conducted, zinc phosphide will be used because of proven lower risk to kit fox.

h. In the case of trapped animals, escape ramps or structures will be installed immediately to allow the animal(s) to escape.

i. Any contractor, employee, or agency personnel who inadvertently kills or injures a San Joaquin kit fox will immediately report the incident to the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service.

j. The City of Newman will prepare and maintain weekly reports on construction monitoring activities in the City of Newman Public Works Department.

Implementation of this mitigation measure would reduce the potential significant impact to San Joaquin kit fox to a less-than-significant level by requiring pre-construction surveys for kit fox and the implementation of avoidance, minimization, and mitigation measures should they be found on the project site.

Burrowing Owl. Burrowing owl is a California Species of Special Concern. Burrowing owls live and breed in burrows in the ground, especially in abandoned California ground squirrel burrows. Optimal habitat conditions include large open, dry and nearly level grasslands or prairies with short to moderate vegetation height and cover, areas of bare ground, and populations of burrowing mammals. This species has been observed approximately ten miles southwest of the project site (Occurrence No. 199, CNDDB 2022a) and approximately 12 miles northwest of the project site within the City of Patterson (Occurrence No. 588, CNDDB 2022a). The project site's ruderal and agricultural habitat provides marginally suitable foraging habitat for burrowing owl, and scattered ground squirrel burrows observed on the site could be utilized for nesting habitat. If burrowing owl is present on or adjacent to the project site, construction activities could result in the loss or disturbance of individual animals. Loss or harm to any individual burrowing owl would be a significant adverse environmental impact. Implementation of the following mitigation measures would reduce the potential impact to burrowing owl to a less-than-significant level.

Mitigation Measure

BIO-2 To avoid loss of or harm to burrowing owl, the City of Newman will implement the following measures:

a. Prior to issuance of a grading permit, and to avoid/minimize impacts to burrowing owls potentially occurring within the project site, the City of Newman will retain a biologist qualified in ornithology to conduct surveys for burrowing owl. The qualified biologist will conduct a two-visit (i.e., morning and evening) presence/absence survey at areas of suitable habitat on and adjacent to the project site boundary no less than 14 days prior to the start of construction or ground disturbance activities. Surveys will be conducted according to the methods for take avoidance described in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993) and the Staff Report on Burrowing Owl Mitigation (CDFW 2012). If no burrowing owls are found, a letter report confirming absence will be prepared and submitted to the California Department of Fish and Wildlife and the City of Newman Public Works Department, where it will be kept on file, and no further measures are required.

b. Because burrowing owls occupy habitat year-round, seasonal no-disturbance buffers, as outlined in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1993) and the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012), will be in place around occupied habitat prior to and during any ground disturbance activities. The following table includes buffer areas based on the time of year and level of disturbance (CDFW 2012), unless a qualified biologist approved by the California Department of Fish and Wildlife verifies through non-invasive measures that either: 1) birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance Buffers (meters)		
		Low	Med	High
Nesting Sites	April 1 – Aug 15	200 m	500 m	500 m
Nesting Sites	Aug 16 – Oct 15	200 m	200 m	500 m
Nesting Sites	Oct 16 – Mar 31	50 m	100 m	500 m

c. If burrowing owl is found and avoidance is not possible, burrow exclusion may be conducted by qualified biologists only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. Occupied burrows will be replaced with artificial burrows at a ratio of one collapsed burrow to one constructed artificial burrow (1:1). Evicted burrowing owls may attempt to colonize or re-colonize an area that would be impacted, thus ongoing surveillance during project activities will be conducted at a rate sufficient to detect burrowing owls if they return.

d. If surveys locate occupied burrows in or near construction areas, the City of Newman will consult with the California Department of Fish and Wildlife to interpret survey results and develop a project-specific avoidance and minimization approach. Once the absence of burrowing owl has been confirmed, a letter report will be prepared by the biologist and submitted to the California Department of Fish and Wildlife and the City of Newman Public Works Department, where it will be kept on file, and no further measures are required.

Implementation of this mitigation measure would reduce the potential significant impact to burrowing owl to a less-than-significant level by requiring pre-construction surveys for active nests/burrows and the implementation of avoidance, minimization, and mitigation measures should they be found on the project site.

Swainson's hawk. Swainson's hawk is listed as a threatened species under the California Endangered Species Act (CESA). Swainson's hawk is a long-distance migrator. Their nesting grounds occur in northwestern Canada, the western U.S., and Mexico and most populations migrate to wintering grounds in the open pampas and agricultural areas of South America (Argentina, Uruguay, southern Brazil). This round-trip journey may exceed 14,000 miles. The birds return to the nesting grounds and establish nesting territories in early March.

Swainson's hawk nests in the Central Valley of California are generally found in scattered trees or along riparian systems adjacent to agricultural fields or pastures. Breeding season occurs from approximately February 1st to September 15th, with peak activities occurring from late May through July. Swainson's hawk forage for small rodents in large, open agricultural habitats, including alfalfa and hay fields. Suitable foraging habitat for Swainson's hawk is found in the open agricultural fields at the project site and potential nesting habitat can be found in the row of mature eucalyptus trees along the sewer trunk line route.

Nine observations of this species have been recorded within five miles of the project site (CNDDB 2022a). There are two active (within the past five years) Swainson's hawk nests within five miles of the project site (CNDDB Occurrences Nos. 2449 and 2451).

The proposed project would not result in a permanent loss of foraging habitat and any temporary impacts on foraging habitat (e.g., disturbance from construction activities) is not anticipated to be significant (e.g., extensive foraging habitats are available in the project vicinity).

Construction activities at the project site could result in the disturbance of nesting sites occupied by Swainson's hawk on or adjacent to the project site, if present. Loss or harm to Swainson's hawk is considered a significant adverse impact. The California Department of Fish and Game's (now California Department of Fish and Wildlife) *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California* (CDFG 1994) provides guidance on how impacts on Swainson's hawk are to be mitigated. Implementation of the following mitigation measures would reduce the potential impact to Swainson's hawk to a less-than-significant level.

Mitigation Measure

BIO-3 The City of Newman will implement the following measures to avoid loss of or harm to Swainson's hawk and other raptors:

a. Tree and vegetation removal will be completed during the nonbreeding season for raptors (September 16–January 31).

b. To avoid, minimize, and mitigate potential impacts on Swainson's hawk and other raptors nesting on or adjacent to the project site, the City of Newman will retain a qualified biologist to conduct preconstruction surveys and identify active nests on and within 0.5 mile of the project site for construction activities conducted during the breeding season (February 1–September 15). The surveys will be conducted before the approval of grading and/or improvement plans (as applicable) and no less than 14 days and no more than 30 days before the beginning of construction. Guidelines, provided in *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley* (Swainson's Hawk Technical Advisory Committee 2000) or updated, current guidance, will be followed for surveys for Swainson's hawk. If no nests are found, a report documenting the results of the survey will be submitted to the City of Newman Public Works Department and no further mitigation will be required.

c. Impacts on nesting Swainson's hawks and other raptors will be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. No project activity will commence within the buffer areas until a qualified biologist has determined, in coordination with California Department of Fish and Wildlife, the young have fledged, the nest is no longer active, or reducing the buffer would not result in nest abandonment. California Department of Fish and Wildlife guidelines recommend implementation of 0.25- or 0.5-mile-wide buffers for Swainson's

hawk nests, but the size of the buffer may be decreased if a qualified biologist, in consultation with California Department of Fish and Wildlife, determine that such an adjustment would not be likely to adversely affect the nest.

The appropriate no-disturbance buffer for other raptor nests (i.e., species other than Swainson's hawk) will be determined by a qualified biologist based on site-specific conditions, the species of nesting bird, nature of the project activity, visibility of the disturbance from the nest site, and other relevant circumstances.

Monitoring of all active raptor nests by a qualified biologist during construction activities will be required if the activity has potential to adversely affect the nest. If construction activities cause the nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no-disturbance buffer will be increased until the agitated behavior ceases. The exclusionary buffer will remain in place until the chicks have fledged or as otherwise determined appropriate by a qualified biologist.

Implementation of these mitigation measures would reduce the potential significant impact to Swainson's hawk to a less-than-significant level by requiring foraging habitat mitigation and pre-construction surveys for Swainson's hawk nests on or near the project site.

Bats. Trees in the project area and/or buildings or structures adjacent to the project site could provide roosting habitat for special-status bat species known to occur in the vicinity of the project site: hoary bat, pallid bat, and western red bat. These bat species inhabit a wide variety of habitats including grasslands, woodlands, and forests. All three species roost in dense foliage of medium to large trees. Construction activities at the project site could result in the disturbance of roost and natal sites occupied by special-status bats on or adjacent to the project site, if present. Loss or harm to special-status bats is considered a significant adverse impact. Implementation of the following mitigation measure would reduce the potential impact to special-status bat species to a less-than-significant level.

Mitigation Measure

BIO-4 The City of Newman will implement following measures to avoid loss of or harm to special-status bat species:

a. Approximately 14 days prior to tree removal and/or construction activities, a qualified biologist will conduct a habitat assessment for bats and potential roosting sites in trees to be removed and in trees or buildings within 50 feet of the construction easement. These surveys will include a visual inspection of potential roosting features (bats need not be present) and a search for presence of guano within the project site, construction access routes, and 50 feet around these areas. Cavities, crevices, exfoliating bark, and bark fissures that could provide suitable potential nest or roost habitat for bats will be surveyed. Assumptions can be made on what species is present due to observed visual characteristics along with habitat use, or the bats can be identified to the species level with the use of a bat echolocation detector such as an "Anabat" unit. Potential roosting features found during the survey will be flagged or marked.

b. If no roosting sites or bats are found, a letter report confirming absence will be prepared by the biologist and submitted to the California Department of Fish and Wildlife and the City of Newman Public Works Department, where it will be kept on file, and no further mitigation is required.

c. If bats or roosting sites are found, bats will not be disturbed without specific notice to and consultation with California Department of Fish and Wildlife.

d. If bats are found roosting outside of the nursery season (May 1 through October 1), California Department of Fish and Wildlife will be consulted prior to any eviction or other action. If avoidance or postponement is not feasible, a Bat Eviction Plan will be submitted to California Department of Fish and Wildlife for written approval prior to project implementation. A request to evict bats from a roost includes details for excluding bats from the roost site and monitoring to ensure that all bats have exited the roost prior to the start of activity and are unable to re-enter the roost until activity is completed. Any bat eviction will be timed to avoid lactation and young-rearing. If bats are found roosting during the nursery season, they will be monitored to determine if the roost site is a maternal roost. This could occur by either visual inspection of the roost bat pups, if possible, or by monitoring the roost after the adults leave for the night to listen for bat pups. Because bat pups cannot leave the roost until they are mature enough, eviction of a maternal roost cannot occur during the nursery season. Therefore, if a maternal roost is present, a 50-foot buffer zone (or different size if determined in consultation with the California Department of Fish and Wildlife) will be established around the roosting site within which no construction activities including tree removal or structure disturbance will occur until after the nursery season.

Implementation of this mitigation measure would reduce the potential significant impact to special-status bat species to a less-than-significant level by requiring pre-construction surveys for bats and potential roosting sites and, if found, avoiding any disturbance.

Nesting Birds. In addition to Swainson's hawk, protected nesting bird species and raptor species have the potential to nest in buildings or structures, on open ground, or in any type of vegetation, including trees, during the nesting bird season (January 15 through September 15). The project site and surrounding properties contain a variety of trees shrubs, and open grassland areas suitable for nesting. Construction activities, including ground disturbance, can impact nesting birds protected under the federal Migratory Bird Treaty Act and California Fish and Game Code, should nesting birds be present during construction. If protected bird species are nesting on or adjacent to the project site during the bird nesting season, then noise-generating construction activities could result in the loss of fertile eggs, nestlings, or otherwise lead to the abandonment of nests. One tree, a goldenrain tree, outside of the Newman city limits in Merced County would be removed according to the plan set (Drawing No. C-19). Implementation of the following mitigation measure would reduce the potential impact to nesting birds to a less-than-significant level.

Mitigation Measure

BIO-5 To avoid impacts to nesting birds during the nesting season (January 15 through September 15), all construction activities should be conducted between September 16 and January 14, which is outside of the bird nesting season. If construction or project-related work is scheduled during the nesting season (February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors), the City of Newman will engage a qualified biologist to conduct nesting bird surveys.

a. Two surveys for active bird nests will occur within 14 days prior to start of construction, with the final survey conducted within 48 hours prior to construction. Appropriate minimum survey radii surrounding each work area are typically 250 feet for passerines, 500 feet for smaller raptors, and 1,000 feet for larger raptors. Surveys will be conducted at the appropriate times of day to observe nesting activities. Locations off the site to which access is not available may be surveyed from within the site or from public areas. If no nesting birds are found, a letter report confirming absence will be prepared by the biologist and submitted to the California Department of Fish and Wildlife and the City of Newman Public Works Department, where it will be kept on file, and no further mitigation is required.

b. If the qualified biologist documents active nests within the project site or in nearby surrounding areas, an appropriate buffer between each nest and active construction will be established. The buffer will be clearly marked and maintained until the young have fledged and are foraging independently. Prior to construction, the qualified biologist will conduct baseline monitoring of each nest to characterize "normal" bird behavior and establish a buffer distance, which allows the birds to exhibit normal behavior. The qualified biologist will monitor the nesting birds daily during construction activities and increase the buffer if birds show signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and/or flying away from the nest). If buffer establishment is not possible, the qualified biologist or construction foreman will have the authority to cease all construction work in the area until the young have fledged and the nest is no longer active. Once the absence of nesting birds has been confirmed, a letter report will be prepared by the biologist and submitted to the City of Newman Public Works Department, where it will be kept on file, and no further measures are required.

Implementation of this mitigation measure would reduce the potential significant impact to nesting birds to a less-than-significant level by requiring pre-construction surveys for active bird nests and the implementation of avoidance, minimization, and mitigation measures should they be found on the project site.

b. **Riparian Habitat or Sensitive Natural Communities.** There were no riparian habitat or sensitive natural communities observed at the project site.

c. **Wetlands and Waters of the U.S.** A review of the National Wetlands Inventory online database was conducted to identify potential jurisdictional aquatic features on or adjacent

to the project site (USFWS 2022a). Results showed the sewer trunk line route running parallel to an agricultural drainage ditch along the southern section of Swamp Rats Road and identified on the NWI as "riverine" habitat (Figure 4, Habitat Map). However, no open drainage ditch or other aquatic feature was observed in this area during the field survey. Therefore, the proposed project would not result in any impact to wetlands and waters of the U.S.

d. **Wildlife Movement.** Wildlife movement corridors provide connectivity between habitat areas, enhancing processes like nutrient flow, gene flow, seasonal migration, pollination, and predator-prey relationships. Increasing connectivity is a critical strategy for addressing habitat loss and fragmentation, a top threat to biodiversity.

The project site is not located within any previously defined essential connectivity areas as mapped by the California Essential Habitat Connectivity Project and is also adjacent to existing developed areas (CDFW 2022c). The project site is not likely to facilitate major wildlife movement due to current active disturbance. As such, the proposed project would have a less-than-significant impact on wildlife movement.

e. **Local Biological Resource Policies/Ordinances.** The city's general plan (City of Newman 2007) has goals in place for conserving local biological resources. The Natural Resources Element provides direction regarding the conservation, development, and use of natural resources in and around Newman, including agricultural land, water quality, vegetation and wildlife, and air quality.

One tree, a goldenrain tree, outside of the Newman city limits in Merced County would be removed according to the plan set (Drawing No. C-19). Merced County does not have a tree removal ordinance.

The Stanislaus County General Plan (Stanislaus County 2015) contains goals, policies, and implementation measures to protect special-status plants and wildlife and their habitats. This includes the utilization of the CEQA process, along with the California Department of Fish and Wildlife's California Natural Diversity Data Base, and the California's Native Plant Society plant lists as the primary sources of information on special status wildlife and plants.

The 2030 Merced County General Plan (Merced County 2013) contains goals, policies, and implementation programs to protect habitat and wetland values including riparian corridors, wetlands, grasslands, rivers and waterways, oak woodlands, vernal pools, wildlife movement, and migration corridors.

Mitigation measures contained in this section will mitigate impacts to biological resources to a less-than-significant level. With these considerations, the proposed project would not conflict with local regulations related to biological resources.

f. **Conservation Plans.** There are no critical habitat boundaries, habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans applicable to the proposed project site.

5. CULTURAL RESOURCES

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5?	☐	☐	☐	☒
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5?	☐	☒	☐	☐
c.	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Comments:

This section is based on the observations of an archaeological pedestrian survey conducted in December 2022 by EMC Planning Group and the results of an archival records search with the Central Coast Information Center archival search conducted by Stantec Consulting, Inc. (May 2022), and the observations and conclusions in a *Historic Property Investigation Report for the Newman Influent Sewer Trunk Improvement Project – Phase II* prepared by the EMC Planning Group staff archaeologist (2023). Cultural reports are exempt from the California Public Records Act and therefore, is not included as an appendix to this initial study. In addition, email communications requesting information that tribes may have available were sent out to the tribes listed on the Native American Heritage Commission contact list on November 21, 2022, December 1, 2022, and December 8, 2022. Follow up phone calls were conducted on December 5, 2022 and December 15, 2022. No responses were received. This documentation is included in Appendix B of the historic property investigation report.

a, b. According to the records search results no significant or potentially significant historic or archaeological resources are present within the project site. A number of reports have been prepared for areas within one half mile, but only two historic records are recorded within one-half mile of the project site. No archaeological records were reported within one-half mile of the project site. The two historic records are a segment of the Miller Ditch and a portion of the city that is located within the State Route 33 (N Street) right-of-way located between post mile 0.1 near the Stanislaus-Merced County line and post mile 0.5 north of Inyo Avenue (California Department of Parks and Recreation 2003 as cited by EMC Planning Group 2023). This portion of the city contains numerous historic-era buildings located approximately one-half mile or more west of the intersection of Canal Road and Hills Ferry Road and would not be affected by the proposed project.

The recorded segment of the Miller Ditch was not determined to be eligible for inclusion on either the National Register of Historic Places or the California Register of Historical Resources (California Department of Parks and Recreation 2020 as cited by EMC Planning Group 2023). An unsurveyed portion of the ditch extends to the Newman Wasteway. Within this area, the Miller ditch is located within 200 feet of the APE before turning east to the Newman Wasteway located about one half mile from the eastern portion of the project site.

The archaeological pedestrian survey did not reveal any trace evidence of prehistoric archaeological resources such as shell fragments, groundstone, debitage, or charring from hearths within the project site. No surface evidence of historic archaeological resources such as ceramics, cans, or historic glass were present. However, during project-related excavation there is always the potential to discover previously unknown historic or unique archaeological resources, which may be potentially significant. Implementation of the following mitigation measure would reduce this potential significant impact to a less-than-significant level.

Mitigation Measure

CR-1 The following information will be included on all bid and construction documents and shall be implemented during all project ground-disturbing activity.

If any prehistoric or historic subsurface archaeological resources, including tribal cultural resources, are discovered during ground-disturbing activities, the following measures will be implemented:

a. All work within 50 meter (165 feet) of the resources will be halted and a qualified archaeologist will be consulted to assess the significance of the find according to CEQA Guidelines Section 15064.5.

b. If any find is determined to be significant, representatives from the City of Newman Public Works Department and the archaeologist will meet to determine the appropriate avoidance measures or other appropriate mitigation.

c. All significant prehistoric cultural materials and or tribal cultural resources recovered will be returned to Native American tribes traditionally and culturally affiliated with the area.

d. In considering any suggested mitigation proposed by the consulting archaeologist to mitigate impacts to historical resources or unique archaeological resources, the City will determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations.

e. If avoidance is infeasible, other appropriate measures (e.g., data recovery) will be implemented.

f. Work may proceed on other parts of the project site while mitigation for historical resources or unique archaeological resources is being carried out.

c. Although there are no formal cemeteries or Native American burial grounds known to exist at the site or in the vicinity, there is a potential that construction activities could accidentally uncover human remains. Disturbance of Native American skeletal remains during the project's construction would be a significant, adverse environmental impact. Implementation of the following mitigation measure would ensure potential impacts are less than significant.

Mitigation Measure

CR-2 The following information will be included on all bid and construction documents and shall be implemented during all project ground-disturbing activity.

California Health and Safety Code Section 7050.5 and the CEQA Guidelines Section 15064.5(e) contain the mandated procedures of conduct following the discovery of human remains. According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery will cease and necessary steps to ensure the integrity of the immediate area will be taken. The Stanislaus County Coroner will be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner will notify the Native American Heritage Commission within 24 hours, who would, in turn, notify the person the Native American Heritage Commission identifies as the Most Likely Descendant of any human remains. Further actions will be determined, in part, by the desires of the Most Likely Descendant. The Most Likely Descendant has 48 hours to make recommendations regarding the disposition of the remains following notification from the Native American Heritage Commission of the discovery. If the Most Likely Descendant does not make recommendations within 48 hours, the City will coordinate with the owner to, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the Most Likely Descendant's recommendations, the owner or the descendent may request mediation by the Native American Heritage Commission.

6. ENERGY

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b.	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Comments:

a. The proposed project would demand energy during its construction, primarily in the form of fuel used in construction equipment. Common construction equipment types such as excavators, backhoes, compactors and haul trucks would be employed. Construction equipment fuel use would not be wasteful or inefficient as existing equipment that conforms to existing applicable regulatory standards would be used and the project is fundamental to maintaining a basic utility to the residents of the city. The completed project would not result in any operational energy increase.

b. The project is a short-term construction activity and does not represent a project type for which inclusion of renewable energy production is possible. Therefore, the project has no potential to conflict with a policy or plan for renewable energy. The replacement sewer line would not increase operational demand for electricity relative to the existing demand. For these reasons, the project does not have potential to conflict with a policy or plan for energy efficiency.

7. GEOLOGY AND SOILS

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	(1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
	(2) Strong seismic ground shaking?	☐	☐	☐	☒
	(3) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
	(4) Landslides?	☐	☐	☐	☒
b.	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c.	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒
d.	Be located on expansive soil, creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Comments:

The analysis presented below is based primarily upon the California Department of Conservation Alquist-Priolo Earthquake Fault Zone Map (California Department of Conservation 2022), and information obtained from the general plan EIR (City of Newman 2006).

a. 1)-4) The project site is located within a seismically active region. The proposed project does not include the construction of structures for human habitation that could directly or indirectly result in substantial adverse effects, including the risk of loss, injury, or death from fault rupture, or seismic-related ground-shaking or liquefaction. The topography of the project site is relatively flat with no risk of related landslides.

Faults. According to the most recent Alquist-Priolo Earthquake Fault Zone Map, there are no known earthquake faults within the vicinity of the project site (California Department of Conservation 2022).

Ground-shaking. Although the project area may experience ground shaking in the event of an earthquake, the proposed project would include a new underground sewer trunk line. The proposed project would be designed and constructed consistent with local and State standards which are required to adhere to state seismic design parameters identified in the California Building Code and would not include construction or of structures for human habitation that could result in directly or indirectly result in substantial adverse effects, including the risk of loss, injury, or death from strong seismic shaking.

Liquefaction. Liquefaction is a phenomenon where loose, saturated, non-cohesive soils such as silts, sands, and gravels undergo a sudden loss of strength during earthquake shaking. According to the General Plan (page HS-5), liquefaction potential in Newman exists in low-lying areas composed of unconsolidated, saturated, clay-free silts and sands. However, the expected degree of ground shaking is moderate and it is unlikely that significant liquefaction would occur (City of Newman 2007). The proposed project would be designed and constructed consistent with local, regional and State standards including seismic design parameters identified in the California Building Code.

b. Proposed construction activity could expose excavated soils to wind and water erosion. Dischargers whose projects disturb one or more acres of soil including underground facilities (Linear Underground Projects) are required to gain coverage under the National Pollutant Discharge Elimination System (NPDES) General Construction Permit (Order 2009-0009-DWQ) (Construction General Permit). The proposed project would disturb more than one acre of land and would be required to adhere to the provisions of the Construction General Permit. The Construction General Permit requires development and implementation of a storm water pollution prevention plan (SWPPP) that uses storm water "Best Management Practices (BMPs)" to control runoff, erosion and sedimentation from the site both during and after construction (California State Water Resources Control Board 2010). Following construction, surfaces would be restored to pre-construction conditions. With implementation of the standard construction BMPs, the potential for soil erosion during construction would be less than significant.

c. The proposed trunk line would be constructed according to current engineering standards and would not include any components or characteristics that would undermine the roadways' stability. Therefore, the proposed project would not cause the roadways to become unstable or potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

d. Expansive soils refer to the potential of soil to expand when wet and contract when dry. After the new trunk line is placed within the trench, the trench would be backfilled with material that supports the long-term structural integrity of the trunk line and to ensure it would not be exposed to expansive soils. No impacts associated with expansive soils would be anticipated with project implementation.

e. The project would not include components that would require the use of septic tanks or alternative wastewater disposal systems.

f. According to the city's general plan EIR, the University of California Berkeley database of paleontological resources noted that the majority of known fossil resources in Stanislaus County are located in the east foothills, the west hills and in and around the City of Modesto. The vertebrate fossils found closest to Newman were located east of Gustine and southeast of Patterson, both of which are approximately four miles south and twelve miles north of the city, respectively, in the vicinity of Interstate 5 (City of Newman 2006, p 4.5-10). However, the 2016 Stanislaus County General Plan EIR (Figure 3.6-5 General Paleontological Sensitivity Map of Stanislaus County) identifies the city location within a high paleontological sensitivity zone. Paleontological resources have not been discovered within the immediate vicinity of the project site and the sewer alignment would be within previous disturbed areas where the likelihood of the existence of unique paleontological resources or unique geologic features is low. Therefore, it is possible that paleontological resources could be accidentally discovered during excavations or other related construction activities associated with development of the project site. Directly or indirectly destroying a unique paleontological site is considered a significant, adverse environmental impact. Implementation of the following mitigation measure would ensure this potential impact would be less than significant.

Mitigation Measure

GEO-1 The following language will be included in all demolition and grading permits: "If paleontological resources are discovered during demolition and earthmoving activities, work shall stop within 100 feet of the find until a qualified paleontologist can assess if the find is unique and, if necessary, develop appropriate treatment measures in consultation with the City of Newman Public Works Department Director or his/her designee."

8. GREENHOUSE GAS EMISSIONS

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Comments:

a. The project is a short-term construction activity. Greenhouse gas (GHG) emissions from construction represent a very small portion of a land use project's lifetime GHG emissions – operational emissions constitute the vast majority of such emissions. In this case, the proposed project would not generate an increase in operational GHG emissions from electricity demand for effluent pumping because the proposed project is replacing existing sewer effluent lines with no increase in capacity and the existing electricity demand from related effluent pumping would not change.

Neither the city nor the air district have adopted thresholds of significance for greenhouse gas construction emissions. One adjacent air district, the Bay Area Air Quality Management District, adopted the *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans* in 2022, which contains its GHG impact analysis guidance. The guidance does not contain a construction-related GHG impact threshold because construction emissions are considered by the Bay Area Air Quality Management District to represent a small fraction of cumulative GHG emissions. Another adjacent air district, the Sacramento Metropolitan Air Quality Management District, has adopted the *Justification for Greenhouse Gas Emissions Thresholds of Significance* in 2014. This guidance includes a construction emissions threshold of 1,100 metric tons of carbon dioxide equivalent (MT CO_2e) per year. To be conservative, this latter threshold is being used as reference for the proposed project. As described in Section 3, Air Quality, criteria air emissions and GHG emissions for the project have been modeled. Results are included in Appendix B. The project would generate a maximum of 214.84 MT CO_2e during construction. This volume would not exceed the referenced threshold of significance. Therefore, the impact is less than significant.

b. As noted in item "a" above, the reference plan for reducing GHG emissions being utilized is the Sacramento Metropolitan Air Quality Management District's *Justification for Greenhouse Gas Emissions Thresholds of Significance*. The proposed project would not be conflict with the construction emissions threshold in the plan. Therefore, the project would have no impact.

9. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, create a significant hazard to the public or the environment?	☐	☐	☒	☐
e.	For a project located within an airport land-use plan or, where such a plan has not been adopted, within two miles of a public airport or a public-use airport, result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Comments:

a, b. The proposed project is an underground sewer trunk line and would not involve the routine transport, use, or disposal of hazardous materials. The transport, use, and storage of hazardous materials during construction and maintenance activities would be conducted in accordance with applicable federal, state, and local statutes and regulations. Therefore, the proposed project would not create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

c. The closest school to the project site, Hurd Barrington Elementary School, is approximately one mile from the closest portion of the proposed sewer trunk line route (Google, Inc. 2022). See also response to a and b above. Therefore, operation of the project does not present a reasonably foreseeable release of hazardous materials within one quarter mile of a school.

d. A review was completed of the California Department of Toxic Substances Control's Cortese List (Envirostor) (California Department of Toxic Substances Control 2022a); the State Water Control Board list of leaking underground storage tank sites (Geotracker) (State Water Resources Control Board 2022a); the State Water Control Board list of solid waste disposal sites with waste constituents above hazardous waste levels outside the waste management unit (State Water Resources Control Board 2022b); the list of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the State Water Resources Control Board (State Water Resources Control Board 2022c); and the California Department of Toxic Substances Control's list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code (California Department of Toxic Substances Control 2022b).

   Based on this review, it was determined that there are two hazardous materials sites (Stanford/Rose Property- ID 50460002 and Gonzales Property-ID 50460001) along the proposed sewer trunk line route on Hills Ferry Road. Both of these sites had residual contamination that was found in the soil and/or groundwater, likely associated with operation of the Old Valley Pipeline that was used to transport heavy petroleum (crude oil) from Bakersfield to Richmond, California (Department of Toxic Substances Control 2022c). According to the Regional Water Quality Control Board's Geotracker, cleanup was completed for both the Gonzales and Stanford/Rose properties in 2005 and 2009, respectively, and the cases have been closed (State Water Resources Control Board 2022d). Therefore, construction of the proposed project, portions of which may cross these sites, would not create a significant hazard to the public or the environment from associated risks.

e. The proposed project is not located within an airport land-use plan or within two miles of a public airport or a public-use airport and would not result in a safety hazard or excessive noise for people residing or working in the project area.

f. The project route does not serve as an emergency evacuation route and does not interfere with an adopted emergency response or evacuation plan (County of Stanislaus 2021).

g. The project site is not located within a wildlands area and the danger of wildfires is low (City of Newman 2006, p. 4.7-11). The project is an underground force main and would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

10. HYDROLOGY AND WATER QUALITY

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☐	☒
b.	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(1)	Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(2)	Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☐	☒
(3)	Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
(4)	Impede or redirect flood flows?	☐	☐	☐	☒
d.	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e.	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Comments:

a. Upon project completion the project area would be restored to its original condition and would not result in any long-term water quality impacts. A short-term increase of sediment discharge may occur during construction that could affect surface water quality. However, as previously discussed in Section 8, underground facilities (Linear Underground Projects) including any conveyance or pipeline affecting more than one acre must obtain coverage under the NPDES General Construction Permit (Order 2009-

0009-DWQ). Under the Construction General Permit, the Contractor will be required to develop and implement a SWPPP that contains best management practices to control sediment and other construction-related pollutants in storm water discharges from the construction site Adherence to the Construction General Permit would ensure that the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

b. The proposed project would not require the use of groundwater resources and would have no effect on groundwater supplies. Temporary dewatering activities may be necessary if perched groundwater is encountered during trenching activities. However, the dewatering activities would not be expected to affect long-term groundwater supplies. The wastewater trunk line would be installed within existing roadways, where it would have no effect on groundwater recharge.

c. 1) The proposed construction would not modify the existing drainage patterns on the project site to the extent that substantial erosion would occur on or off the site. A short-term increase of sediment discharge may occur during construction, earthmoving and trenching activities that would remove some soil cover, disturb soil particles, and temporarily alter site drainage patterns, creating conditions conducive to wind and water erosion. However, as previously discussed, linear underground projects affecting more than one acre are subject to the NPDESs General Construction Permit. The project is subject to compliance with the Construction General Permit, as applicable, including preparation and implementation of a SWPPP, prior to the commencement of any clearing, grading, or excavation. Best management practices would be incorporated into the project to control the discharge of storm water pollutants including sediments associated with construction activities, which would substantially reduce the already minimal offsite sediment transport and associated water quality degradation. Compliance with the General Construction Permit requirements ensures that temporary erosion impacts would be less than significant.

2)-4) As noted, the project is subject to compliance with the requirements of the Construction General Permit, including preparation and implementation of a SWPPP prior to the commencement of any clearing, grading, or excavation. Best management practices would be incorporated into the project to control the discharge of storm water. The proposed project would restore all disturbed areas to their original condition upon project completion. Implementation of the proposed project would not permanently physically alter proposed project area. Therefore, the proposed project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff or impede or redirect flood flows. There would be no impact.

d. The project site is not located within a seiche or tsunami risk area. A portion of the proposed route (along Swamp Rats Road and the unnamed private farm road) is within the FEMA 100-year Flood Zone A (Federal Emergency Management Agency 2023).

Implementation of required best management practices to control erosion and sediment in storm water discharges from active construction areas would ensure the risk of release of pollutants during a flood event would be less than significant.

e. As discussed in item "a" consistent with the San Joaquin River Groundwater Sustainability Agency's Groundwater Sustainability Plan the proposed project is subject to compliance with the NPDES General Construction Permit and would not substantially degrade water quality during construction or during project operation. Additionally, the proposed project would not use groundwater. Therefore, the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

11. LAND USE AND PLANNING

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Physically divide an established community?	☐	☐	☐	☒
b.	Cause any significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Comments:

a, b. The proposed project site is located within existing public and private roadways and would not impact any residences or result in the physical division of an established community, and would not conflict with any applicable land use plans, policies or regulations adopted by the city, the County of Stanislaus, or the County of Merced for the purpose of avoiding or mitigating environmental effects.

12. MINERAL RESOURCES

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Result in loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated in a local general plan, specific plan, or other land-use plan?	☐	☐	☐	☒

Comments:

a, b. The California Surface Mining and Reclamation Act of 1975 (SMARA) was enacted in response to land use conflicts between urban growth and essential mineral production. SMARA requires the State Geologist to classify land according to the presence or absence of significant mineral deposits. Local governments must consider this information before land with important mineral deposits is committed to land uses incompatible with mining. According to the general Plan EIR, neither the city nor the Stanislaus County or Merced County areas surrounding the city have designated important mineral resource recovery areas (City of Newman 2006, p. 4.6-4). No adverse effects on mineral resources would occur.

13. NOISE

Would the project result in:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies?	☐	☒	☐	☐
b.	Generation of excessive ground-borne vibration or ground borne noise levels?	☐	☒	☐	☐
c.	For a project located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within two miles of a public airport or public-use airport, expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Comments:

The project site consists of agricultural farm roads and improved rights-of-way. Land uses adjoining the site consist of residential uses west of Hills Ferry Road and some light industrial uses west of Canal School Road. The noise environment of the project area is defined primarily by motor vehicles (e.g., automobiles, trucks, and motorcycles) utilizing the roadways and farm equipment in the fields. Noise-sensitive land uses, or sensitive receptors, are generally defined as residences, hospitals, schools, libraries, and certain types of recreational uses. The nearest sensitive receptors to the project site are the residences along the north side of Hills Ferry Road, some of which are located within 30 feet of the proposed sewer trunk line location.

a. The exterior noise threshold for single family residences is 60 dBA (City of Newman 2007). According to the general plan EIR, typical highest maximum noise levels generated by construction typically range from about 90 to 105 dBA at a distance of 50 feet from the noise source. Typical hourly average construction generated noise levels are about 81 dBA to 89 dBA measured at a distance of 50 feet from the center of the site during busy construction periods. Construction generated noise levels drop off at a rate of about 6 dBA per doubling of distance between the source and receptor (City of Newman 2006, p. 4.10-14).

   Construction noise is not considered to be a significant impact if construction is limited to allowed hours and construction equipment is adequately maintained and muffled. The proposed project would be required to comply with the city's general plan Policy HS-6.9, which is related to construction noise and timing and is outlined in Mitigation Measure

N-1 presented below. Compliance with this mitigation would ensure that less than significant impacts occur in relation to temporary construction noise levels exceeding the city's established noise standards. Implementation of the following mitigation measure would ensure construction impacts would be less than significant.

Mitigation Measure

N-1 The following will be implemented during construction of the project, pursuant to General Plan Policy HS-6.9:

a. Construction activities shall normally be limited to the hours of 7AM to 7PM Monday through Friday, and 8AM to 7PM on Saturday. Construction Use available noise suppression devices and properly maintain and muffle loud construction equipment.

b. Avoid staging of construction equipment and unnecessary idling of equipment within 200 feet of noise-sensitive land uses.

b. Vibration levels generated during project construction activities may at times be perceptible at neighboring land uses, but due to the type of proposed project and distance of adjacent residences, vibration levels would not be expected to cause cosmetic or structural damage to buildings. Additionally, implementation of mitigation measure N-1 limits construction hours and requires a detailed construction plan be prepared that identifies a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize disturbance. The proposed project would not result in exposure of persons to or generation of excessive ground-borne vibration or ground borne noise levels.

c. The proposed project is not located within the vicinity of a private airstrip or an airport land-use plan or within two miles of a public airport or public-use airport.

14. POPULATION AND HOUSING

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Comments:

a, b. The proposed project is the replacement of an existing sewer line that does not increase flow or treatment capacity. The proposed project does not require the removal of housing or displacement of occupants. Therefore, the proposed project would not directly or indirectly induce any population growth.

15. PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a. Fire protection?	☐	☐	☐	☒
b. Police protection?	☐	☐	☐	☒
c. Schools?	☐	☐	☐	☒
d. Parks?	☐	☐	☐	☒
e. Other public facilities?	☐	☐	☐	☒

Comments:

a-e. Implementation of the proposed project would not result in the development of new housing, businesses, or other development that would increase demand for fire or police protection or new schools, parks, or other public facilities. Therefore, there would be no physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts.

16. RECREATION

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Comments:

a-b. Implementation of the proposed project would not result in the development of new housing, businesses, or other development that would increase the use of existing or demand for new neighborhood and regional parks or other recreational facilities. No impact would occur.

17. TRANSPORTATION

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b.	Conflict or be inconsistent with CEQA guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d.	Result in inadequate emergency access?	☐	☐	☐	☒

Comments:

a. Proposed construction activities would require temporary traffic control along Hills Ferry Road and Canal School Road. The proposed project would temporarily and incrementally increase vehicle traffic on area roadways during construction from workers, delivery vendors and construction equipment. No increase in traffic volumes that would permanently affect traffic facilities would occur. Therefore, the proposed project would not conflict with any policy, ordinance or program addressing congestion management on area roadways or circulation.

b. CEQA Guidelines Section 15064.3(b) applies to land use and transportation projects that would be expected to increase VMT during operations. The proposed project would not result in increased VMT because operational conditions of the wastewater conveyance system would not change with the proposed project. The proposed project would not conflict or be inconsistent with the CEQA Guidelines Section 15064.3, subdivision (b).

c. The proposed project is a construction project that would occur within existing rights-of-way and farm roads and does not include changes to the existing traffic network. Therefore, there would be no impact.

d. During trench excavation and trunk line placement, daytime road delays would occur along the proposed force main route that would require restricting vehicle traffic to one lane within the construction area. However, the project site does not contain any emergency facilities and does not serve as an emergency evacuation route. The proposed project would not interfere with an adopted emergency response or evacuation plan.

18. TRIBAL CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
(1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources code section 5020.1(k), or	☐	☐	☐	☐
(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☐

Comments:

The City of Newman has not received any requests for consultation pursuant to Public Resources Code section 21080.3.1 from California Native American tribes traditionally and culturally affiliated with the project area. However, because the proposed project may receive federal fundings, tribal consultation has been initiated to comply with federal requirements.

AB52 Consultation

EMC Planning Group contacted the Native American Heritage Commission and obtained the Native American Contact List for Merced and Stanislaus Counties in December 2022. Letters offering consultation pursuant to Public Resources Code section 21080.3.1 were mailed on March 13, 2023, to each of the contacts on the list. As of April 17, 2023, the City had received no responses. Therefore, further consultation did not occur and was not required.

See also Section 5.0, Cultural Resources, for mitigation measures to be implemented.

19. UTILITIES AND SERVICES SYSTEMS

Would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b.	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c.	Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d.	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e.	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Comments:

a, c. The proposed project replaces an existing sewer trunk line at the same capacity as the existing sewer trunk line, and would not require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities that would cause significant environmental impacts. The proposed project does not require a determination by the wastewater treatment provider that it has adequate capacity to serve the project.

b. The proposed project may require the use of water for construction purposes but would have no effect on long-term water supplies following implementation of the proposed project.

d, e. The proposed project includes abandoning the existing sewer trunk line in place. Constructing the new sewer trunk line would not generate significant volumes of solid waste. Solid waste produced during construction would be minimal and would not

generate solid waste in excess of State or local standards or in excess of the landfill's remaining capacity. Disposal would be collected and sent to the Fink Road Landfill located over 13 miles northwest of the project site. According to CalRecycle, the landfill has a permitted daily maximum of 2,400 tons of solid waste per day (CalRecycle 2023). As a consequence, the proposed project would not impair the attainment of solid waste reduction goals.

20. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b.	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	☐	☐	☐	☒
c.	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d.	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Comments:

a-d. The proposed project is not located on or near state responsibility areas or lands classified as very high fire hazard severity zones (CalFire 2021a; CalFire 2021b). Therefore, the proposed project would not expose people or structures to a significant risk involving wildfires nor exacerbate the risk of wildfire and analysis is not necessary.

21. MANDATORY FINDINGS OF SIGNIFICANCE

		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Measures Incorporated	Less-Than-Significant Impact	No Impact
a.	Does the project have the potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b.	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☒	☐	☐
c.	Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Comments:

a. **Biological Resources.** Based on the information and analysis provided in this initial study, implementation of the proposed project would not substantially degrade the quality of the environment and would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of rare or endangered plants or animals. However, potential, significant impacts to special-status wildlife species are identified in this initial study. With implementation of mitigation measures BIO-1 through BIO-5, the proposed project's potential impacts to special-status wildlife species would not be significant.

Cultural Resources. Implementation of the proposed project would not threaten to eliminate important examples of the major periods of California history or prehistory. The archival research, Sacred Lands file search, and field reconnaissance determined that that there are no historic or potentially historic unique archaeological resources within the project site or vicinity. However, there is always the potential to disrupt previously undiscovered potentially historic and significant archaeological. The analysis in Section 5.0, Cultural Resources, concludes that excavation activities may result in the loss of unknown prehistoric or historic subsurface archaeological resources or disturbance of

human remains onsite. Implementation of Mitigation Measures CR-1 and CR-2 would reduce the potential impacts to previously undiscovered potentially historic and significant archaeological resources to less than significant.

b. Under Section 15065(a)(3) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects "that are individually limited, but cumulatively considerable." As defined in Section 15065(a)(3) of the CEQA Guidelines, cumulatively considerable means "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

   The proposed project would result in temporary air quality, greenhouse gas, and noise impacts during construction and could have the potential to impact sensitive biological resources, undiscovered cultural resources, and paleontological resources during construction. With the implementation of the identified best management practices and mitigation measures, construction impacts would be mitigated to a less than significant level. Because the nature of the identified impacts is temporary and would be mitigated, the proposed project would not have a cumulatively considerable impact.

c. Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly.

   Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. The proposed project construction would generate criteria air pollutant emissions and noise in proximity to residences. However, implementation of mitigation measures AQ-1 and N-1 would reduce potential impacts to a less than significant level.

E. Compliance with Federal Laws and Regulations

This section summarizes the federal environmental laws and regulations that apply to the project and describes the project's compliance with those laws and regulations. The federal regulations addressed in this section are based on guidance from the State Water Resources Control Board (SWRCB) for CEQA-Plus environmental review related to State Revolving Fund loans.

Archaeological and Historic Preservation Act

Passed and signed into law in 1974, the Archaeological and Historic Preservation Act (AHPA) amended and expanded the Reservoir Salvage Act of 1960. The AHPA provides for the preservation of historical and archeological data that might otherwise be irreparably lost or destroyed as the result of (1) flooding, the building of access roads, the erection of workmen's communities, the relocation of railroads and highways, and other alterations of the terrain caused by the construction of a dam by any agency of the United States, or by any private person or corporation holding a license issued by any such agency or (2) any alteration of the terrain caused as a result of any federal construction project or federally licensed activity or program.

According to the Advisory Council on Historic Preservation, if a project will affect historic properties that have an archeological value, the AHPA may impose additional requirements on an agency. As discussed in Section 5, "Cultural Resources," and below under National Historic Preservation Act, the archival research did not identify any historic-era or archaeological resources eligible for inclusion on the National Register of Historic Resources located within or adjacent to the Area of Potential Effects (APE). Therefore, there are no historic properties within the project area that have known archaeological or historic value and the AHPA does not apply.

Bald and Golden Eagle Protection Act

The bald eagle will continue to be protected by the Bald and Golden Eagle Protection Act (Act) even though it has been delisted under the Endangered Species Act. This law, originally passed in 1940, provides for the protection of the bald eagle and the golden eagle (as amended in 1962) by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16 U.S.C. 668(a); 50 CFR 22). "Take" includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb (16 U.S.C. 668c; 50 CFR 22.3). The 1972 amendments increased civil penalties for violating provisions of the Act to a maximum fine of $5,000 or one-year imprisonment with $10,000 or not more than two years in prison for a second conviction. Felony convictions carry a maximum fine of $250,000 or two years of imprisonment. The fine doubles for an organization. Rewards are provided for information leading to arrest and conviction for violation of the Act.

No bald or golden eagles were observed during the survey and no habitat was identified within the project boundaries. As discussed in Section D. Biological Resources, habitat for protected nesting birds and raptors was identified and a mitigation measure requiring preconstruction nesting bird surveys is included. If these birds were to move into the project vicinity, surveys for nesting birds and raptors would identify and provide protection to nests. No further mitigation is required.

CLEAN AIR ACT

Regulatory Background

The proposed project area is located in the San Joaquin Valley Air Basin (hereinafter "air basin"). Air quality within the air basin is regulated by the U.S. Environmental Protection Agency (EPA) and the California Air Resources board (CARB) at the federal and state levels, respectively, and locally by San Joaquin Air Pollution Control District (hereinafter "air district"). At the federal level, EPA implements the national air quality programs. EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), enacted in 1970. The most recent major amendments were made by Congress in 1990. The CAA requires EPA to establish National Ambient Air Quality Standards (NAAQS). EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (i.e., respirable particulate matter with an aerodynamic diameter less than or equal to 10 microns [PM_{10}] and fine particulate matter with an aerodynamic diameter less than or equal to 2.5 microns [$PM_{2.5}$]), and lead. The CAA also requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP).

The SIPs are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), air district rules, state regulations, and federal controls. California grants air districts explicit statutory authority to adopt indirect source regulations and transportation control measures to reduce air pollutant emissions. Local air districts prepare SIP elements and submit them to CARB for review and approval. CARB forwards SIP revisions to the EPA for approval and publication in the Federal Register.

The CAA Amendments added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. Each state's SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA reviews all state SIPs to check for consistency with the mandates of the CAA and its amendments and to determine whether implementing them will achieve air quality goals. If EPA determines a SIP to be inadequate, a Federal Implementation Plan that imposes additional control measures may be prepared for nonattainment areas. If the state fails to submit an approvable SIP or to implement the plan within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basins.

On November 30, 1993, EPA promulgated the general conformity regulations, which were established to ensure that federal actions do not cause or contribute to new violations of the EPA designates each county (or portions of counties) within California as attainment, maintenance, or nonattainment based on the area's ability to maintain ambient air concentrations below the applicable NAAQS. Areas are designated as attainment if ambient air concentrations of a criteria pollutant or precursor are below the NAAQS. Areas are designated as nonattainment if ambient air concentrations exceed the NAAQS. Areas previously designated as nonattainment that subsequently demonstrated compliance with the NAAQS are designated as maintenance areas.

NAAQS, do not worsen existing violations of the NAAQS, and do not delay attainment of the NAAQS. These regulations apply to a proposed federal action, except actions covered by federal transportation conformity, in an area designated as a nonattainment or maintenance area with respect to the NAAQS if the total direct and indirect emissions of the relevant criteria pollutant and precursor emissions caused by the proposed action would be equal to or exceed specified de minimis amounts. If these criteria are met, a determination of conformity would be required of the federal agency overseeing the project.

As reported previously in Section 3, Air Quality, the air basin is in nonattainment for NAAQS for ozone (eight-hour) and $PM_{2.5}$. The EPA's de minimus standards for Ozone and $PM_{2.5}$ are 10 tons per year and 70 tons per year, respectively. As reported in Section 3, the proposed project's unmitigated ozone and $PM_{2.5}$ emissions from construction activity would be less than 1.5 tons annualized over one year. No change in operational emissions at the WWTRF would occur. Therefore, the proposed project would not result in any emissions that would exceed the NAAQS, cause or contribute to new violations of the NAAQS, worsen existing violations of the NAAQS, or delay attainment of the NAAQS. Subsequently, the effect of the proposed project's ozone and $PM_{2.5}$ emissions on the environment is less than significant.

Coastal Barriers Resources Act

The Coastal Barrier Resources Act (PL 97-348) designated various undeveloped coastal barrier islands, depicted by specific maps, for inclusion in the Coastal Barrier Resources System (System). Areas so designated were made ineligible for direct or indirect federal financial assistance that might support development, including flood insurance, except for emergency life-saving activities. Exceptions for certain activities, such as fish and wildlife research, are provided, and National Wildlife Refuges and other, otherwise protected areas are excluded from the System. The System includes relatively undeveloped coastal barriers along the Atlantic and Gulf coasts, as well as the Great Lakes and Puerto Rico and the Virgin Islands.

The project area and surrounding lands are not located in the System. Therefore, compliance with this Act is not applicable.

Coastal Zone Management Act

The Coastal Zone Management Act (PL 92-583), administered by National Oceanic and Atmospheric Administration Fisheries Service's (NOAA Fisheries) Office of Ocean and Coastal Resource Management, provides for management of the nation's coastal resources, including the Great Lakes, and balances economic development with environmental conservation.

The Act outlines two national programs, the National Coastal Zone Management Program and the National Estuarine Research Reserve System. The 34 coastal programs aim to balance competing land and water issues in the coastal zone, while estuarine reserves serve as field laboratories to provide a greater understanding of estuaries and how humans impact them. The Act's overall program objectives remain balanced to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

The project area and surrounding lands are not located within California's coastal zone, which generally extends 1,000 yards inland from the mean high tide line; therefore, compliance with this Act is not applicable.

Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA) (PL 93-205), the U.S. Fish and Wildlife Service and NOAA Fisheries have regulatory authority over federally listed species. Under ESA, a permit to "take" a listed species is required for any federal action that may harm an individual of that species. Take is defined under ESA Section 9 as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Under federal regulation, take is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. ESA Section 7 outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat. Section 7(a)(2) requires federal agencies to consult with the U.S. Fish and Wildlife Service and/or NOAA Fisheries to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species.

As discussed in Section 4, Biological Resources, potential project impacts to state and federally listed special-status species and their habitats have been identified and mitigation measures to minimize these impacts are presented. Implementation of the mitigation measures during construction minimizes or avoids significant effects to federally listed special-status species. Therefore, incidental take authorization will not be obtained for this project. Consultation with NOAA Fisheries will not be needed.

Environmental Justice

Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations" (59 Federal Register 7629 (1994]), directs federal agencies to identify and address disproportionately high and adverse health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law. The EO also directs each federal agency to develop a strategy for implementing environmental justice. EO 12898 is also intended to promote nondiscrimination in federal programs that affect human health and the environment, as well as provide minority and low-income communities access to public information and public participation.

The Council on Environmental Quality (CEQ) has oversight of the federal government's compliance with EO 12898. To facilitate compliance, CEQ prepared and issued, in consultation with EPA, Environmental Justice Guidance under the National Environmental Policy Act (NEPA) (CEQ 1997). According to the CEQ's Environmental Justice Guidance, the first step in conducting an environmental justice analysis is to define minority and low-income populations. Based on these guidelines, a minority population is present in a project area if either (a) the minority population of the affected area exceeds 50 percent or (b) the minority population

percentage of the affected area is meaningfully greater than the minority population percentage in the general population. By the same rule, a low-income population exists if the project area consists of 50 percent or more people living below the poverty threshold, as defined by the U.S. Census Bureau, or is significantly greater than the poverty percentage of the general population.

The second step of an environmental justice analysis requires a finding of a high or adverse effect. The CEQ guidance indicates that when determining whether the effects are high and adverse, agencies are to consider whether the risks or rates of impact "are significant (as employed by NEPA) or above generally accepted norms." The final step requires a finding that the effect on the minority or low-income population be disproportionately high and adverse. The CEQ offers a non-quantitative definition stating that an effect is disproportionate if it appreciably exceeds the risk or rate to the general population.

The following population characteristics are considered in this analysis:

- race and ethnicity per the 2017-2021 American Community Survey 5-Year Estimates; and
- median and per capita income as it relates to the federal poverty threshold.

For purposes of this analysis, estimates of city demographics and income and poverty status was obtained for 2017 through 2021 from the U.S. Census Bureau, which, for purposes of this analysis, is considered "existing conditions." Although the proposed Phase II sewer trunk alignment traverses small portions of Stanislaus County and Merced County, these portions of the sewer line are not located near residences and, therefore, no disproportionately high or adverse effects would occur to any minority or non-minority residents of Stanislaus County or Merced County. The analysis addresses only the City of Newman.

Demographics, Income and Poverty

Table 2, Demographics Data, presents city demographic information from the 2017-2021 American Community Survey. The American Community Survey estimated that approximately 71 percent of the city's population identified themselves as white; less than one percent identified themselves as black; less than one percent identified themselves as American Indian/Alaska Native; and approximately four percent identified themselves as Asian. Approximately 71.5 percent of the city's population identified themselves as Hispanic or Latino (U.S. Census Bureau 2021b).

Table 3, Income and Poverty Status, presents data for city household income, per capita income, and poverty status within the city per the 2017-2021 American Community Survey 5-Year Estimates. The percent of individuals living below the poverty level was 7.7 percent (U.S. Census Bureau 2021b).

Table 2 Demographics Data

Race	Percent of Population
White	71.2
Black of African American	0.3
American Indian and Alaska Native	0.8
Asian	4.4
Native Hawaiian and Other Pacific Islander	0
Other Race Not Identified Above	8.6
Hispanic or Latino of Any Race	
Hispanic or Latino	71.5
Not Hispanic or Latino	23.7

SOURCE: U.S. Census Bureau 2021

Table 3 Income and Poverty Status

Type	Number	Percent of Total Population
	Newman	Newman
Households	3,510	--
Median Household Income	$76,895	--
Per Capita Income	$27,167	--
Poverty Status- Individuals	--	7.7

SOURCE: U.S. Census Bureau 2021b

Impact Evaluation

To make a finding that disproportionately high and adverse effects would likely fall on a minority or low-income population, three conditions must be met simultaneously: (1) there must be a minority or low-income population in the affected area, (2) a high and adverse effect must exist, and (3) the effect must be disproportionately high and adverse on the minority or low-income population.

(1) Is there a Minority or Low-Income Population in the Affected Area?

According to the EPA, either the county or state percentages can be used when the scope of the "general population." A definition of "meaningfully greater" is not given by the CEQ or EPA, although the EPA notes that any affected area that has a percentage of minorities that is above the State's percentage is potentially a minority community and any affected area with a minority percentage at least double that of the state is definitely a minority community under Executive Order 12898.

As described above, in the 2017-2021 American Community Survey, approximately 72 percent of the population in the city identified themselves as Hispanic or Latino (Table 2), which is greater,

but not more than twice the statewide average (approximately 40 percent) (U.S. Census Bureau 2021a; 2021b). Therefore, the city may qualify as a potential minority community.

Approximately 7.7 percent of individuals in the city were below the poverty level (Table 3), which was below the state average (approximately 12.3 percent of individuals) ((U.S. Census Bureau 2021a; 2021b). Therefore, for purposes of this analysis, a disproportionately high low-income population is not present in the project area or the area served by the project.

(2) Is there a High and Adverse Effect? and (3) Is the Effect Disproportionately High and Adverse on the Minority Population?

Construction of the proposed project would result in short term adverse effects from noise and potential emissions exposures to only those residences on Canal School Road and Hills Ferry Road located within 30 feet of the proposed Phase II trunk line trench. Operations of the new sewer line would improve the reliability and operating efficiency of the wastewater system for all residents of the city, and eliminate failures and hazardous waste spills that can affect water quality. Therefore, the proposed project would have a beneficial overall impact for both minority and non-minority populations.

Temporary construction impacts associated with the project would occur along roadways in the project area. Nearby residences could be subject to construction-related impacts, including increased air pollutants, noise. However, these impacts would be short-term, and construction would take place during daylight hours when most residents may not be home (i.e., during working and school hours). In addition, the operation of the improvements would not negatively affect residences in the surrounding neighborhood. Therefore, construction and operation of the project would not have a disproportionately high and adverse effect on the minority population.

FARMLAND PROTECTION POLICY ACT

The purpose of the federal Farmland Protection Policy Act (FPPA) of 1981 (Public Law 97-98) is to minimize federal contributions to the conversion of farmland to nonagricultural uses by ensuring that federal programs are administered in a manner compatible with state government, local government, and private programs designed to protect farmland. The Natural Resources Conservation Service (NRCS) is the agency primarily responsible for implementing the FPPA.

U.S. Department of Agriculture (USDA) Regulations (7 CFR Part 658) implementing the FPPA requires federal agencies to conduct a farmland conversion impact rating (using USDA Form AD-1006) when a project may convert farmlands to non-agricultural uses. This impact rating should be done when the impacts of a project will affect farmlands in the following categories:

- prime farmland - the highest quality land for food and fiber production having the best chemical and physical characteristics for producing;
- unique farmland - land capable of yielding high value crops such as citrus fruits, olives; and
- farmlands designated as important by state and local governments, with the approval of the Secretary of Agriculture.

As discussed in Section 2, Agricultural Resources, the project is the construction of a subsurface sewer trunk line that would be located within existing roadways. However, to enable access for construction and maintenance equipment, the area of potential disturbance overlaps slightly with adjacent tilled acreage that is identified as Unique Farmland. Farming activities within the area of potential disturbance may need to be temporarily suspended during construction or future maintenance activities, but would be returned to its previous condition upon project completion. Therefore, the proposed project would not convert Unique Farmland to non-agricultural uses, and no significant adverse effect would occur. Subsequently, consultation with NRCS (including submittal of the Farmland Conservation Impact Rating form) is not required for the project.

Fish and Wildlife Coordination Act

Projects that may impact a stream or other water body by impounding, diverting, deepening a channel, or otherwise controlling or modifying flow for any purpose (including navigation and drainage) will require consultation with the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife. The FWCA is not applicable to those projects in which the maximum surface area impoundment of water is less than ten (10) acres, or to activities for or in connection with programs primarily for land management and use carried out by federal agencies with respect to federal lands under their jurisdiction.

The proposed project will not impact a stream or other water body by impounding, diverting, deepening a channel, or otherwise controlling or modifying flow for any purpose. The FWCA is therefore not applicable to this project.

Fish and Wildlife Conservation Act

The Fish and Wildlife Conservation Act of 1980 (16 USC 2901 et seq.) encourages federal agencies to conserve and promote conservation of non-game fish and wildlife species and their habitats. In addition, the Fish and Wildlife Conservation Act (16 USC 661 et seq.) requires federal agencies undertaking projects affecting water resources to consult with the U.S. Fish and Wildlife Service and the state agency responsible for fish and wildlife resources whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water will otherwise be controlled or modified for any purpose whatsoever, including navigation and drainages. The 1988 amendment (Public Law 100-653, Title VIII) to the Fish and Wildlife Conservation Act requires the Secretary of the Interior, through the U.S. Fish and Wildlife Service, to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973."

As discussed in Section 4, Biological Resources, no impacts to potentially jurisdictional wetlands and waters of the U.S., have been identified. Additionally, the proposed project would not impound, divert, deepen any channel The proposed project is in compliance with the Fish and Wildlife Conservation Act.

FLOODPLAIN MANAGEMENT ACT

EO 13690, "The Federal Flood Risk Management Standard" (January 30, 2015) revises EO 11988, "Floodplain Management" (May 24, 1977), and directs federal agencies to take the appropriate actions to reduce risk to federal investments, specifically to "update their flood-risk reduction standards." The goal of this directive is to improve the resilience of communities and federal assets against the impacts of flooding and recognizes the risks and losses due to climate change and other threats. The Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRMs) are used to determine if properties are located within Special Flood Hazard Areas.

As explained in Section 10, Hydrology and Water Quality, a portion of the proposed route (along Hills Ferry Road) is within the FEMA 100-year Flood Zone A. However, the proposed project is construction of an underground sanitary sewer trunk within existing public rights-of-way and privately owned farm roads. Once construction is complete all roadways would be returned to pre-project conditions. Therefore, the project would not result in adverse effects related to exposures of people or structures to increased risks of flooding.

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT

In response to growing concern about the status of United States fisheries, Congress passed the Sustainable Fisheries Act of 1996 (Public Law [PL] 104-297) to amend the Magnuson-Stevens Fishery Conservation and Management Act (PL 94-265), the primary law governing marine fisheries management in the Federal waters of the United States. The Magnuson-Stevens Conservation and Management Act, as amended (U.S.C. 180 et seq.), requires that Essential Fish Habitat (EFH) be identified and described in federal fishery management plans. Federal agencies must consult with NOAA Fisheries on any activity which they fund, permit, or carry out, that may adversely affect EFH. NOAA Fisheries is required to provide EFH conservation and enhancement recommendations to the federal agencies. EFH is defined as those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity.

The project site is not located within an identified EFH. Therefore, the proposed project would not impact marine fisheries.

MARINE MAMMAL PROTECTION ACT

The Marine Mammal Protection Act (MMPA) was enacted on October 21, 1972. All marine mammals are protected under the MMPA. The MMPA prohibits, with certain exceptions, the "take" of marine mammals in the United States waters and by the United States citizens on the high seas, and the importation of marine mammals and marine mammal products into the United States.

The project site is not located within a marine environment. Therefore, compliance with this Act is not applicable to the proposed project.

MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. Section 703, et seq.), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it will be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations (CFR), Section 10.13 (50 CFR 10.13). The list includes nearly all birds native to the United States.

As discussed in Section 4, Biological Resources, the project area provides potential nesting habitat for burrowing owl, Swainson's hawk, common raptors, and other common nesting birds. Any tree removal, ground-disturbing, or other construction work activities during the nesting season for these species (approximately February 1 through September 15) could result in nest abandonment and the mortality of eggs and chicks. However, implementation of Mitigation Measures BIO-3 and BIO-5 would prevent take of MTBA species by requiring nest surveys and non-disturbance buffers around active nests, which would prevent nest abandonment and loss of eggs or young.

NATIONAL HISTORIC PRESERVATION ACT

Federal protection of resources is legislated by (a) the National Historic Preservation Act (NHPA) of 1966 as amended by 16 U.S. Code 470, (b) the Archaeological Resource Protection Act of 1979, and (c) the Advisory Council on Historical Preservation. These laws and organizations maintain processes for determination of the effects on historical properties eligible for listing in the National Register of Historic Places (NRHP). Federal and federally-sponsored programs and projects are reviewed pursuant to Section 106 of the NHPA. Section 106 of the NHPA requires federal agencies to consider the effects of proposed federal undertakings on historic properties. NHPA requires federal agencies to initiate consultation with the State Historic Preservation Officer as part of the Section 106 review process.

Determination of Effects

A Historic Property Identification Report was prepared for the proposed project (EMC Planning Group 2023). This section includes a summary of the report conclusions.

The APE setting begins at the intersection of Canal School Road and Hills Ferry Road at the city limit with Stanislaus County, and terminates in Merced County at the sewer line connection to Phase 1 (refer to Figure 2 and Figure 3). The APE consists of existing public road rights-of-way and privately-owned roadways.

As discussed in the HPIR and summarized in Section 5, Cultural Resources, the archival research did not identify any historic resources located in or within ½ mile of the APE. No previously recorded archaeological resources are located within the APE or within a one-quarter mile radius of the APE. No significant cultural materials, prehistoric or historic, were noted within the APE boundaries during surface reconnaissance. No sites or structures within the APE (north of Canal

Street and Hills Ferry Road) appear to be potentially eligible for inclusion in the National Register of Historic Places (NRHP). Therefore, the project would have no effect on historic properties (EMC Planning Group 2023).

Protection of Wetlands

The purpose of EO 11990 (May 24, 1977) is to "minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands." To meet these objectives, EO 11990 requires federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. EO 11990 applies to: acquisition, management, and disposition of federal lands and facilities construction and improvement projects which are undertaken, financed, or assisted by federal agencies; and federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities.

As discussed in Section 6. Biological Resources, the proposed sewer trunk line project will not impact potentially jurisdictional wetlands or Waters of the U.S.

Rivers and Harbors Act, Section 10

If a project involves the construction of structures or any other regulated activities in, under, or over navigable waters of the United States, a Section 10 Permit from the USACE is required. Regulated activities include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway. Navigable waters of the United States are those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high-water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce. Tributaries and backwater areas associated with navigable waters of the United States, and located below the OHW elevation of the adjacent navigable waterway, are also regulated under Section 10.

As discussed in Section 4, Biological Resources, the proposed project will not impact potentially jurisdictional wetlands or Waters of the U.S.

Safe Drinking Water Act, Sole Source Aquifer Protection

The Safe Drinking Water Act (42 USC Section 300f et seq.) was established to protect the quality of drinking water in the United States. This law focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources.

The Act authorizes the EPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with these primary (health-related) standards. The 1996 amendments to the Act require that EPA consider a detailed risk and cost assessment, and best available peer-reviewed science, when developing these standards. State governments, which can be approved to implement these rules for EPA, also encourage attainment of secondary standards (nuisance-related). Under the Act, EPA also establishes minimum standards for state programs to protect underground sources of drinking water from endangerment by underground injection of fluids.

The project and surrounding lands are not located within a sole source aquifer, as designated by EPA Region 9 (U.S. Environmental Protection Agency 2022).

WILD AND SCENIC RIVERS ACT

The Wild and Scenic Rivers Act (16 USC Section 1271 et seq.) establishes a National Wild and Scenic Rivers System for the protection of rivers with important scenic, recreational, fish and wildlife, and other values. Rivers are classified as wild, scenic, or recreational. The act designates specific rivers for inclusion in the System and prescribes the methods and standards by which additional rivers may be added.

The project site is not within the vicinity of a designated wild and scenic river (Bureau of Land Management 2016).

WILDERNESS ACT

Except as specifically provided for in the Wilderness Act (Act), and subject to existing private rights, there will be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving health and safety of persons within the area), there will be no temporary road, no use of motor vehicles, motorized equipment, or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such areas.

No segment of the project is located within a designated Wilderness Area according to the USDA (2023).

F. ALTERNATIVES

Introduction

This chapter includes a discussion of alternatives to the proposed project in compliance with State Water Resources Control Board CEQA-Plus requirements related to State Revolving Fund loans and per U.S. Environmental Protection Agency guidance for environmental information documents related to Special Appropriation Fund Grants. These alternatives are provided to meet the CEQA-Plus requirements and are not required for compliance with CEQA. The proposed project is described in Section A "Project Description," and evaluated throughout this CEQA-Plus Initial Study and therefore is not discussed below.

Alternative 1: No Project

Under the No Project Alternative, the city would continue to operate the existing sewer line and would repair the line on an as needed basis. Risks of continued sewage spills into agricultural fields and drainage ditches or catastrophic failure are high. Access to repair the existing sewer line within active agricultural fields would continue to interrupt agricultural operations. Risks of sewer overflows and spills that can be a hazard to public safety, the environment, existing infrastructure, and private property. The No Project alternative would not achieve any of the project objectives and would result in greater long-term construction and operational environmental impacts associated with multiple sewer line failures or potential catastrophic failure.

Alternative 2: Replacement Within the Existing Alignment

Under the Replacement within the Existing Alignment Alternative, the city would construct a new sewer line parallel to the existing lines within the existing easement between the intersection of Canal School Road and Hills Ferry Road and the terminus of the already-approved Phase I replacement trunk line (refer to Figure 2). While most of Alternative 2's environmental impacts would be similar to those of the proposed project, the route is farther from the residences along Hills Ferry Road, and therefore, would lessen impacts from exposures to construction noise and equipment exhaust and dust emissions. However, the existing route largely traverses farmland that is under active agricultural production. Significant interruptions to agricultural practices during construction and routine maintenance activities would occur due the trunk line's location below actively cultivated fields with no roadway access. Alternative 2 fails to meet all project objectives as this alternative would not be constructed within roads to minimize capital costs and instead crosses agricultural lands in active cultivation.

Summary

The proposed project would best achieve the project objectives with the greatest ease of operation, maintenance, and reliability and the fewest environmental impacts. The proposed project would reduce or eliminate disruptions to active agricultural activities by decommissioning the existing sewer influent trunk line that runs through agricultural fields in place and by placing the new sewer influent trunk within existing roads. The no project alternative would not achieve

any of the project objectives and would potentially result in greater impacts associated with future sewer line failures. The alternative route is similar to the proposed project, and would result in similar environmental impacts; however, may have fewer noise and air quality construction impacts on sensitive receptors. However, it would have greater adverse effects to agricultural operations and would not achieve all of the project objectives. Because all of the alternatives either do not meet all of the project objectives or result in greater environmental impacts compared to the proposed project, the proposed project as described in Section A, "Project Description," was selected as the preferred alternative.

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Project Plans

A

APPENDIX

CONTRACT DRAWINGS FOR

CITY OF NEWMAN

WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS
AND
NEWMAN INFLUENT TRUNK SEWER

CONFORMED SET

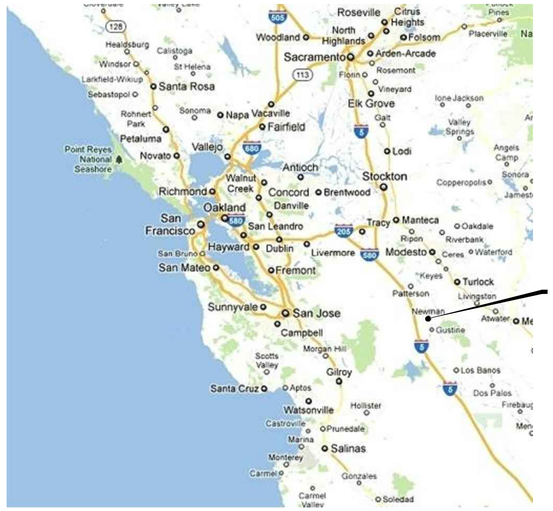
OCTOBER, 2022

NOTE:
EACH PROJECT HAS ITS OWN SEPARATE
DRAWING INDEX AND SHEET COUNT

Stantec

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CONTRACT DRAWINGS FOR
CITY OF NEWMAN
WWTRF MCPIKE 1 RECLAMATION IMPROVEMENTS
AUGUST, 2019

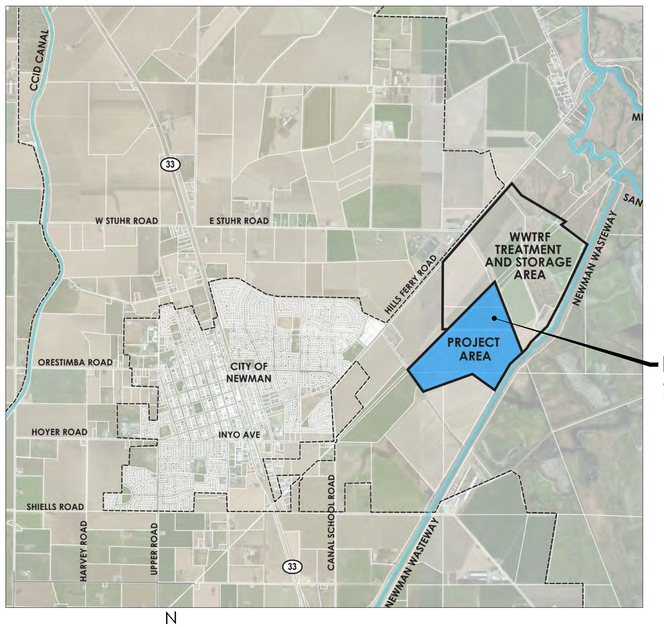


CITY OF NEWMAN

N

VICINITY MAP

SCALE: NTS



PROJECT AREA
SEE DWG G03

N

LOCATION MAP

SCALE: NTS

DRAWING INDEX

GENERAL:

DRAWING NO.	SHEET NO.	DESCRIPTION
G00	1	COVER SHEET
G01	2	PROJECT TITLE, VICINITY AND LOCATION MAP, DRAWING INDEX AND DESIGN CRITERIA
G02	3	ABBREVIATIONS, AREA DESIGNATIONS, LEGENDS, PIPING SYSTEM AND SYMBOLS
G03	4	KEY PLAN
G04	5	GENERAL NOTES, CONSTRUCTION STAGING AREA AND ACCESS ROAD

DEMOLITION

DRAWING NO.	SHEET NO.	DESCRIPTION
D01	6	EXISTING 12" SE PIPE DEMOLITION – PLAN AND PROFILE
D02	7	EXISTING MCPIKE 1–1 IRRIGATION PIPE – DEMOLITION PLAN
D03	8	IRRIGATION PUMP STATION 2 DEMOLITION

CIVIL:

DRAWING NO.	SHEET NO.	DESCRIPTION
C01	9	18" PRESSURIZED IRRIGATION PIPE – PLAN AND PROFILE STA 0+20 TO STA 11+00
C02	10	18" PRESSURIZED IRRIGATION PIPE – PLAN AND PROFILE STA 11+00 TO STA 22+00
C03	11	18" PRESSURIZED IRRIGATION PIPE – PLAN AND PROFILE STA 22+00 TO STA 33+00
C04	12	18" PRESSURIZED IRRIGATION PIPE – PLAN AND PROFILE STA 33+00 TO STA 44+50
C05	13	18" PRESSURIZED IRRIGATION PIPE – PLAN AND PROFILE STA 44+50 TO STA 49+18.85 AND 18" WELL DISCHARGE – PLAN AND PROFILE
C06	14	21" MCPIKE 1–1 IRRIGATION PIPE – PLAN AND PROFILE STA 0+20 TO STA 9+25
C07	15	24" MCPIKE 1–3 IRRIGATION PIPE – PLAN AND PROFILE 1 STA 0+20 TO STA 9+50
C08	16	24" MCPIKE 1–3 IRRIGATION PIPE – PLAN AND PROFILE 2 STA 9+50 TO STA 17+50
C09	17	24" MCPIKE 1–3 IRRIGATION PIPE – PLAN AND PROFILE 3 STA 17+50 TO STA 28+00
C10	18	IRRIGATION PUMP STATION 2 SITE PLAN
C11	19	MCPIKE DISTRIBUTION STRUCTURE – PLAN AND SECTION
C12	20	MISCELLANEOUS CIVIL DETAIL
C20	21	TYPICAL CIVIL DETAILS 1
C21	22	TYPICAL CIVIL DETAILS 2

STRUCTURAL:

DRAWING NO.	SHEET NO.	DESCRIPTION
S01	23	TYPICAL STRUCTURAL NOTES 1
S02	24	TYPICAL STRUCTURAL NOTES 2
S03	25	TYPICAL STRUCTURAL DETAILS

MECHANICAL:

DRAWING NO.	SHEET NO.	DESCRIPTION
M01	26	IRRIGATION PUMP STATION 2 – TOP PLAN
M02	27	IRRIGATION PUMP STATION 2 – SECTION AND DETAILS
M03	28	TYPICAL MECHANICAL DETAIL 1
M04	29	TYPICAL MECHANICAL DETAIL 2
M05	30	TYPICAL MECHANICAL DETAIL 3

DRAWING INDEX

ELECTRICAL:

DRAWING NO.	SHEET NO.	DESCRIPTION
E01	31	ELECTRICAL SYMBOLS AND ABBREVIATIONS
E02A	32	ELECTRICAL SINGLE LINE, DEMO/MODIFICATION AND LOAD CALCULATIONS
E02B	33	ELECTRICAL ELEVATIONS
E03	34	VFD ELEMENTARY WIRING DIAGRAM
E04	35	TYPICAL ELECTRICAL DETAILS 1
E05	36	TYPICAL ELECTRICAL DETAILS 2
E06	37	TYPICAL ELECTRICAL DETAILS 3
E10	38	OVERALL ELECTRICAL SITE PLAN
E11	39	OVERALL ELECTRICAL SITE PLAN
E12	40	IRRIGATION PUMP STATION 2 ELECTRICAL PLAN
E13	41	IRRIGATION PUMP STATION 2 GROUNDING PLAN

DESIGN CRITERIA

EFFLUENT PUMP STATION 2

PUMPS	NUMBER	2
PUMPS, EACH	HP	20
CAPACITY 1 PUMP, WELL ON, RESERVOIR FULL	GPM	2330
CAPACITY 1 PUMP, WELL ON, RESERVOIR EMPTY	GPM	2030
CAPACITY 1 PUMP, WELL OFF, RESERVOIR FULL	GPM	2400
CAPACITY 1 PUMP, WELL OFF, RESERVOIR EMPTY	GPM	2100
CAPACITY 2 PUMP, WELL ON, RESERVOIR FULL	GPM	3620
CAPACITY 2 PUMP, WELL ON, RESERVOIR EMPTY	GPM	3100
CAPACITY 2 PUMP, WELL OFF, RESERVOIR FULL	GPM	3720
CAPACITY 2 PUMP, WELL OFF, RESERVOIR EMPTY	GPM	3220

1. CAPACITIES ARE TO MCPIKE FIELDS 1–1 AND 1–3 TO THE MOST REMOTE IRRIGATION HEADER.
2. CAPACITY TO IRRIGATION HEADERS CLOSER TO THE DISTRIBUTION STRUCTURE WILL BE HIGHER.
3. PUMP CAPACITIES TO MCPIKE FIELD 1–2 CANNOT OCCUR CONCURRENTLY WITH PUMPING FROM THE WELL AND WILL INCREASE IN CLOSE PROXIMITY TO THE PUMP STATION.

WELL PUMP DISTRIBUTION

	NUMBER	1
CAPACITY OF WELL, 0 EFFLUENT PUMPS	GPM	1500

CAPACITY OF WELL TO THE MOST REMOTE IRRIGATION HEADER FROM THE DISTRIBUTION STRUCTURE. CAPACITY IS DEPENDENT ON THE WELL PUMP AND WILL INCREASE IN CLOSE PROXIMITY TO THE DISTRIBUTION STRUCTURE.

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CITY OF NEWMAN — AGRICULTURE — DAIRY — 1888

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WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

File Name: X05593-G01 AND COVER | RG Dwn. | PR Dsgn. | GA Chkd. | 2019.08.02 YYYY.MM.DD

Title

PROJECT TITLE
VICINITY AND LOCATION MAP,
DRAWING INDEX, AND DESIGN CRITERIA

Project No. 2002005593 | Scale NTS

Revision | Sheet 2 of 41 | Drawing No. G01

ORIGINAL SHEET - ANSI D

LEGEND

- EXISTING EDGE OF PAVEMENT
- NEW FACILITIES
- EXISTING FACILITIES
- 54 — NEW CONTOUR
- 54 — EXISTING CONTOUR
- NEW EMBANKMENT
- X 16.0 — NEW SPOT ELEVATION
- X 27.0 — EXISTING SPOT ELEVATION
- TREE
- 2.0% — SLOPE (PROFILE)
- 600.00' — HORIZONTAL LENGTH
- N01°21'16"E — HORIZONTAL DIRECTION
- PP — EXISTING POWER POLE
- PROPERTY LINE
- Ø — DIAMETER
- NEW PIPELINE
- NEW PIPELINE
- EXST PIPELINE
- EXST PIPELINE
- EXST PIPELINE
- EXST FENCE
- MANHOLE
- ITEM TO BE DEMOLISHED
- CONSTRUCTION EASEMENT
- INDICATE WHERE THRUST BLOCK REQUIRED AT JOINT
- R — INDICATE WHERE RESTRAINT REQUIRED AT JOINT

PIPING SYMBOLS

- GATE VALVE
- CHECK VALVE
- MECHANICAL JOINT OR BELL & SPIGOT FITTING
- OR
- FLANGED FITTING
- FLANGED COUPLING ADAPTER
- FLEXIBLE COUPLING
- IRRIGATION HEADER
- PLUG VALVE
- BUTTERFLY VALVE
- UNION
- STRAINER
- CLEANOUT
- FLANGE X MJ ADAPTOR
- GROOVED COUPLING
- WALL SLEEVE
- BELL RING PENETRATION

CALLOUT SYMBOLS

- A / M02 — SECTION IDENTIFICATION LETTER; SHEET OR DRAWING NUMBER WHERE SECTION APPEARS
- B / M02 — SECTION IDENTIFICATION LETTER; SHEET OR DRAWING NUMBER WHERE SECTION IS TAKEN
- 1 / M03 — DETAIL IDENTIFICATION NUMBER; SHEET OR DRAWING NUMBER WHERE DETAIL IS TAKEN OR APPEARS

HATCHING LEGEND

- NATIVE SOIL / ENGINEERED FILL
- CONCRETE (PLAN & SECTION)
- RIPRAP / AGGREGATE BASE
- REGRADED DIRT ROAD
- CONSTRUCTION ENTRY/EXIT ACCESS ROADWAYS
- CONSTRUCTION STAGING AREA

ABBREVIATIONS

AB	AGGREGATE BASE
AV	AIR VALVE
CAV	COMBINED AIR RELEASE VALVE
CONC	CONCRETE
CV	CHECK VALVE
CL	CENTER LINE
DIP	DUCTILE IRON PIPE
DWG	DRAWING
(E)	EXISTING
EJ	EXPANSION JOINT
EL	ELEVATION
ELB	ELBOW
EXIST	EXISTING
FC	FLEXIBLE COUPLING
FCA	FLEXIBLE COUPLING ADAPTER
FIN FG GR	FINISHED GRADE
FLG	FLANGE
GPM	GALLON PER MINUTE
GS	GALVANIZED STEEL
GSP	GALVANIZED STEEL POST
GV	GATE VALVE
HP	HORSE POWER, HIGH POINT
HORZ	HORIZONTAL
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
INF	INFLUENT
INV	INVERT
IRR	IRRIGATION
MAG	MAGNETIC
MAX	MAXIMUM
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MLV	MANUAL VALVE
(N)	NEW
OC	ON CENTER
OD	OUTSIDE DIAMETER

ABBREVIATIONS

PG	PRESSURE GAUGE
PIP	PLASTIC IRRIGATION PIPE
PP	PIPE PENETRATION, POWER POLE
PS	PIPE SUPPORT, PRESSURE SWITCH
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
PV	PLUG VALVE
QTY	QUANTITY
R	RESTRAINT, RIM, RADIUS
R&W	REMOVE & WASTE
RED	REDUCER
REQD	REQUIRED
S	SLOPE
SCH	SCHEDULE
SD	STORM DRAIN
SE	SECONDARY EFFLUENT
SF	SQUARE FOOT
SG	SLUICE GATE
SIM	SIMILAR
SOG	SLAB ON GRADE
SPEC, SPECS	SPECIFICATIONS
SQ	SQUARE
SS	SANITARY SEWER
SST	STAINLESS STEEL
STA	STATION
STL	STEEL
TOP	TOP OF PIPE
TW	TAILWATER
TYP	TYPICAL
W/O	WITHOUT
WS	WATERSTOP
WWTRF	WASTEWATER TREATMENT RECLAMATION FACILITY
VERT	VERTICAL

DRAWING NUMBERING SYSTEM

1. THE DRAWINGS ARE SUBDIVIDED INTO BROAD TRADE SECTIONS AND HAVE THE FOLLOWING PREFIXES TO THEIR NUMBERS ACCORDING TO CATEGORY AND ARE BOUND IN THE FOLLOWING ORDER.

G	GENERAL
D	DEMOLITION
C	CIVIL
S	STRUCTURAL
M	MECHANICAL
E	ELECTRICAL

2. THE DRAWINGS WITHIN THIS SET ARE NUMBERED PER THE FOLLOWING EXAMPLE:

C 1
- C — TRADE
- 1 — DRAWING NUMERICAL SEQUENCE

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WWTRF MCPIKE 1
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NEWMAN, CALIFORNIA

File Name: X05593-G02 — RG Dwn. — PR Dsgn. — GA Chkd. — 2019.08.02 YYYY.MM.DD

Title

ABBREVIATIONS, LEGENDS, PIPING SYSTEM, AND SYMBOLS

Project No. 2002005593

Scale NTS

Revision

Sheet 3 of 41

Drawing No. G02

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ORIGINAL SHEET - ANSI D

CONSTRUCTION STAGING AREA (SEE DWG G04)

CONSTRUCTION ACCESS ROAD

EXISTING J-PIPE WELL

C06

PROPOSED 21" MCPIKE 1-1 IRRIGATION PIPE

(E) SS MH

(E) SS MH

MCPIKE 1-1 USE AREA

BACK 66 USE AREA LAA3

MATCHLINE

MATCHLINE

MATCHLINE

PROPOSED 18" PRESSURIZED IRRIGATION PIPE

STORAGE RESERVOIR 1

CONTROL POINT 2

CONTROL POINT 1

CONSTRUCTION STAGING AREA (SEE DWG G04)

MATCHLINE

PROPOSED 18" PRESSURIZED IRRIGATION PIPE

C05

(E) 18" INFLUENT SS

(E) 21" INFLUENT SS

C02

C01

EXISTING IRRIGATION PUMP STATION 2

(E) SS MH

C04

(E) SS MH

C03

FUTURE STORAGE RESERVOIR FOOT PRINT

STORAGE RESERVOIR 2

MCPIKE DISTRIBUTION STRUCTURE (SEE DWG C11)

MCPIKE 1-2 USE AREA

C07

PROPOSED 18" WELL DISCHARGE PIPE

TIE INTO (E) MCPIKE WELL LINE

MATCHLINE

PROPOSED 36" SS (SEE NEWMAN INFLUENT TRUNK SEWER PLAN)

MCPIKE 2-85 USE AREA (FUTURE)

C08

MATCHLINE

PROPOSED 24" MCPIKE 1-3 IRRIGATION PIPE

MCPIKE 1-3 USE AREA

BACK 12 USE AREA LAA4

PROPOSED 24" MCPIKE 1-3 IRRIGATION PIPE

C09

KEY PLAN

SCALE: 1" = 200'

CONTROL POINT SCHEDULE

PT. NO.	POINT DESCRIPTION	NORTHING	EASTING	ELEVATAION
1	TEMPORARY SURVEY CONTROL MARKER	1941676.04	6419843.41	68.3200
2	TEMPORARY SURVEY CONTROL MARKER	1942670.44	6420597.15	78.1700

SEE ADDITIONAL SURVEY NOTES ON DRAWING G04.

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WWTRF MCPIKE 1
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NEWMAN, CALIFORNIA

File Name: X05593-PP — Dwn. RG — Dsgn. PR — Chkd. GA — 2019.08.02 YYYY.MM.DD

Title

KEY PLAN

Project No. 2002005593

Scale 1" = 200'

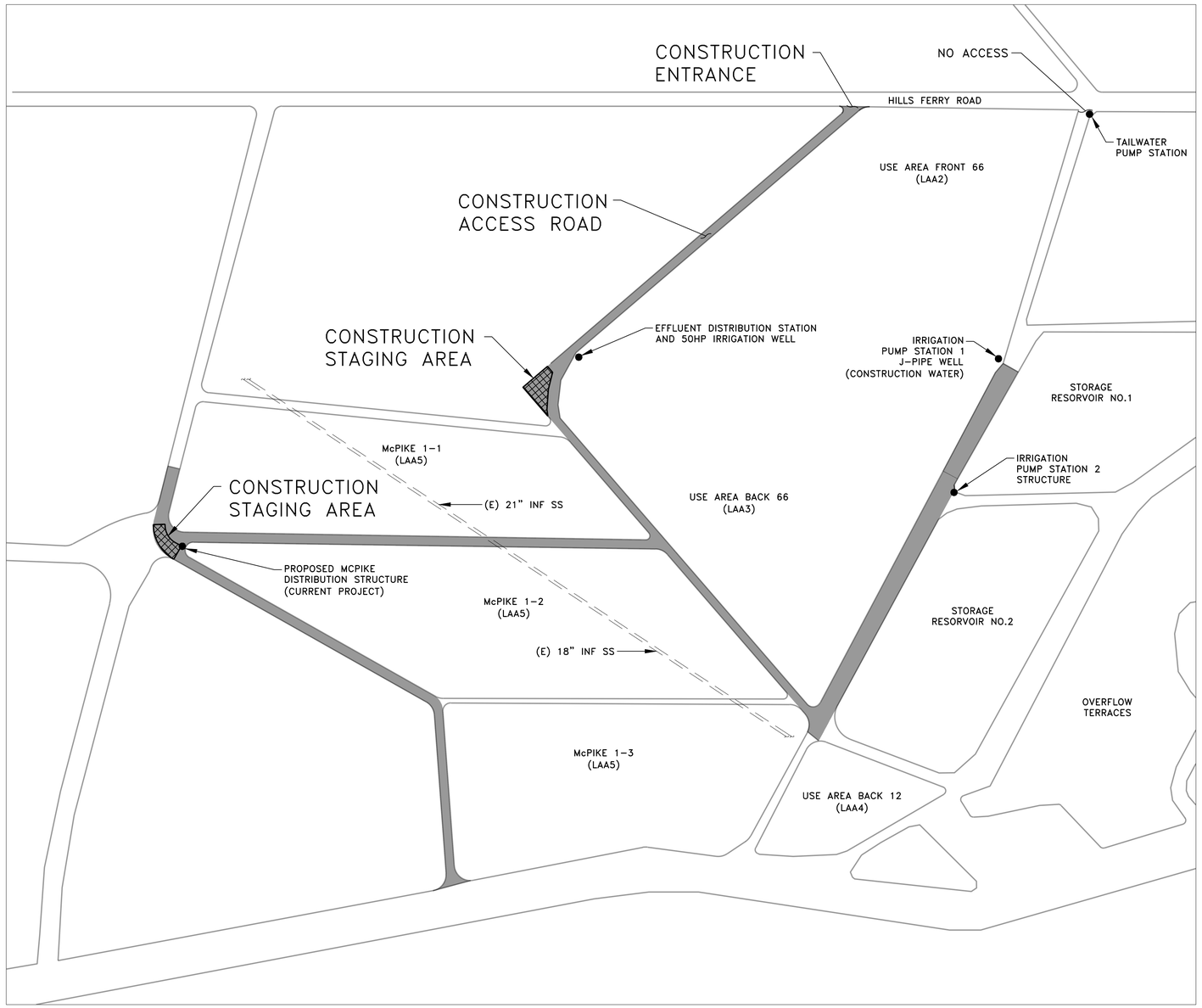
Revision

Sheet 4 of 41

Drawing No. G03

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ORIGINAL SHEET - ANSI D



CONSTRUCTION STAGING AREA AND ACCESS ROAD

NTS

GENERAL NOTES

1. VERTICAL DATUM: NGVD29 BASED ON BENCH MARK 'J-982' ELEVATION 66.77 FEET
2. HORIZONTAL DATUM CALIFORNIA STATE PLANE COORDINATE SYSTEM ZONE 8, NAD83 (1991.35) CA HPGN.
3. PIPELINES AND FINISHED GRADES SHALL SLOPE UNIFORMLY BETWEEN ELEVATIONS SHOWN ON THE PLANS AND SECTIONS.
4. THE CONTRACTOR SHALL FIELD CHECK ALL EXISTING STRUCTURES, PIPELINES AND GRADES FOR VERIFICATION OF DIMENSIONS AND ELEVATIONS. SEE SPECIFICATIONS.
5. BEFORE BEGINNING ANY EXCAVATION THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (1800-643-2444) 48 HOURS PRIOR TO COMMENCEMENT OF EXCAVATION.
6. A MINIMUM OF 6 INCHES CLEARANCE SHALL BE MAINTAINED BETWEEN PIPE AND CROSSING UNDERGROUND WHETHER SHOWN ON THE PLANS OR NOT. UNLESS OTHERWISE SHOWN, ALL PIPELINES SHALL HAVE A MINIMUM COVER OF 30 INCHES.
7. PULL JOINTS ON STANDARD FITTINGS OR ADJACENT PIPE JOINTS TO OBTAIN VERTICAL OR HORIZONTAL CURVES SHOWN.
8. WHERE FIXED DIMENSIONS ARE NOT SHOWN THE CONTRACTOR SHALL SCALE THE DRAWINGS TO DETERMINE LOCATIONS, SUBJECT TO MINOR ADJUSTMENTS BY THE ENGINEER.
9. LAYOUT OF ALL IRRIGATION VALVES AND IRRIGATION CHECKS IS APPROXIMATE. ENGINEERS APPROVAL IS REQUIRED FOR FINAL LAYOUT.
10. MINIMIZE DISTURBANCE AND COMPACTION OF AGRICULTURAL SOIL WHENEVER POSSIBLE. ALL CONSTRUCTION EQUIPMENT OPERATING IN AGRICULTURAL FIELDS MUST STAY WITHIN DESIGNATED CONSTRUCTION EASEMENTS.
11. FOR ALL EXCAVATIONS OCCURING ON AGRICULTURAL LAND REMOVE AND STOCKPILE TOP SOIL TO BE REPLACED DURING SITE RESTORATION.
12. TIMING OF ALL CONSTRUCTION ACTIVITY MUST BE CLOSELY COORDINATED WITH ENGINEER AND WWTRF STAFF.
13. NEW IRRIGATION VALVES ARE OWNER SELECTED, MINIMUM DUTY CONDITION OF 22 FEET OF HEAD.
14. CONTRACTOR WILL HAVE AN APPROVED DEWATERING PLAN IN PLACE PRIOR TO ANY EXCAVATION.

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ORIGINAL SHEET - ANSI D

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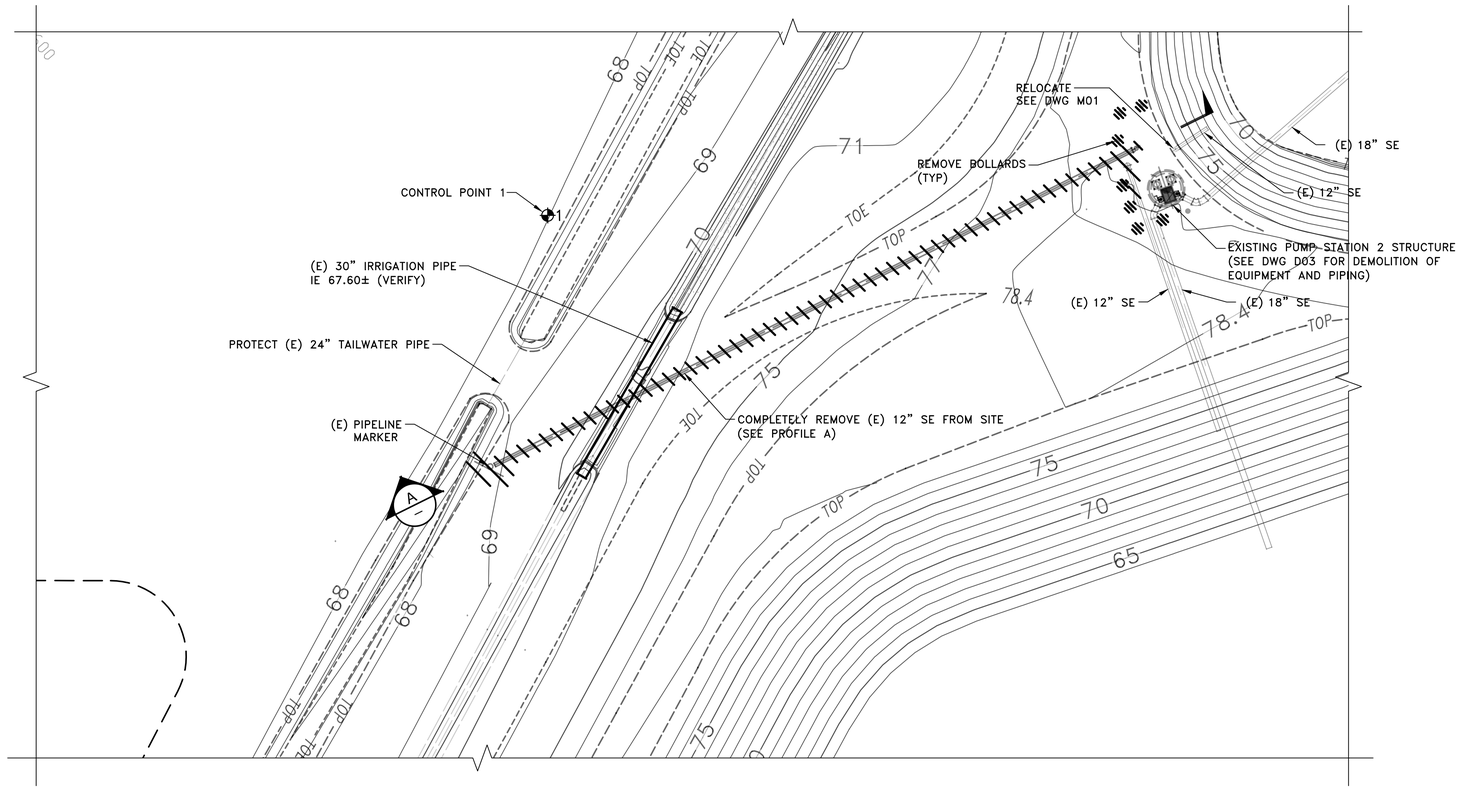
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RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

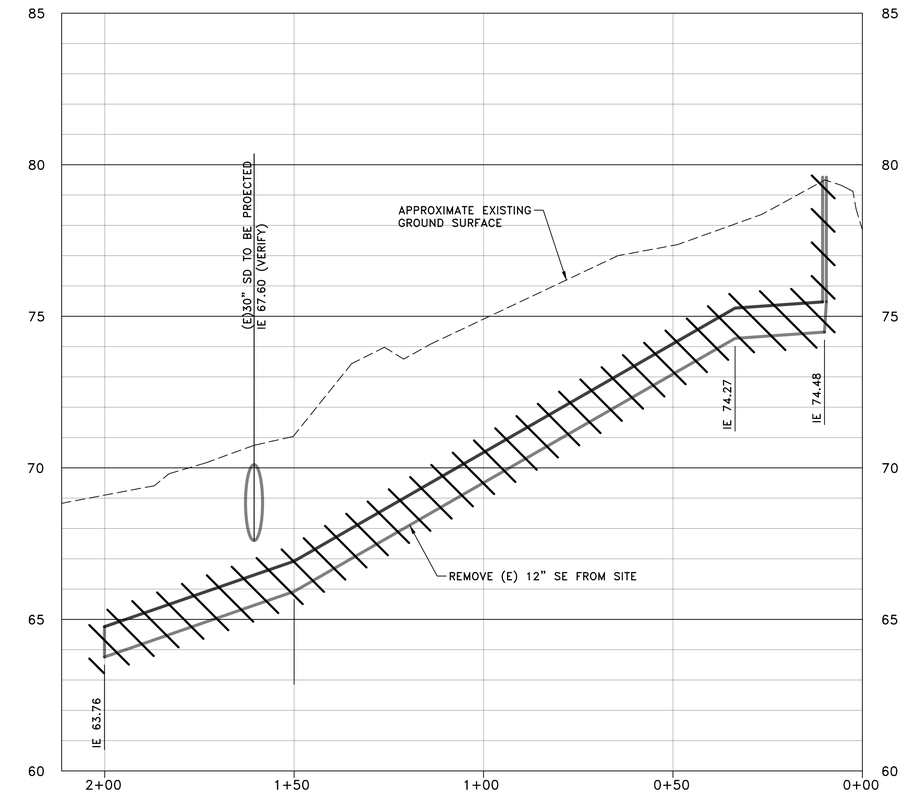
File Name: X05593-G04 | RG Dwn. | PR Dsgn. | GA Chkd. | 2019.08.02 YYYY.MM.DD

Title
GENERAL NOTES, CONSTRUCTION STAGING AREA AND ACCESS ROAD

Project No. 2002005593
Scale NTS
Revision
Sheet 5 of 41
Drawing No. G04



PLAN
1" = 20'



PROFILE
HORZ: 1" =20', VERT 2" = 5'

A

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CITY OF NEWMAN
AGRICULTURE DAIRY
1888

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WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

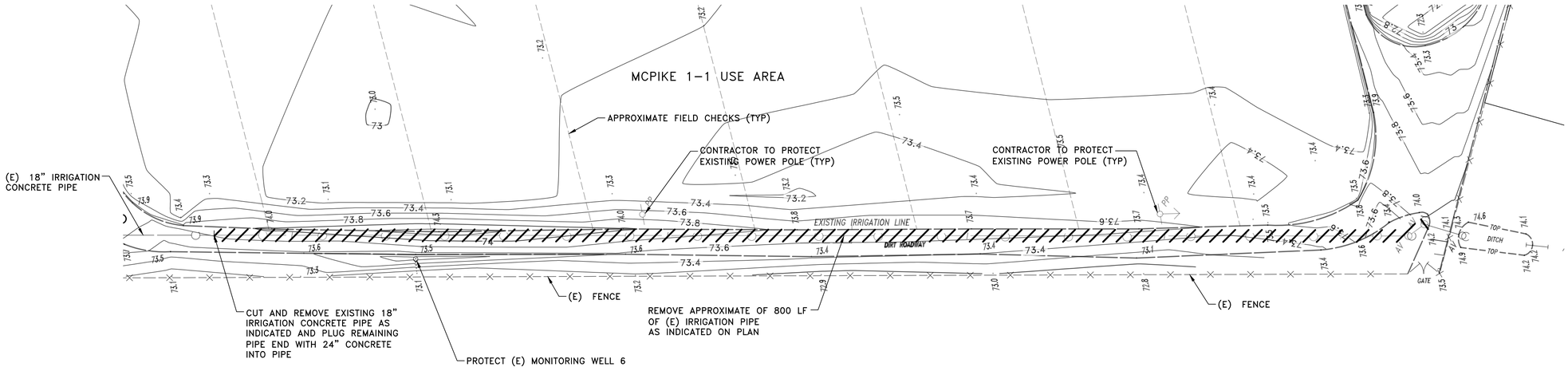
File Name: X05593-PP — RG Dwn. — PR Dsgn. — GA Chkd. — 2019.08.02 YYYY.MM.DD

Title
EXISTING 12" SE PIPE DEMOLITION
PLAN AND PROFILE

Project No. 2002005593
Scale
Revision
Sheet 6 of 41
Drawing No. D01

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ORIGINAL SHEET - ANSI D



PLAN
1" = 40'

NOTES:

1. MINIMIZE DISTURBANCE AND COMPACTION OF AGRICULTURAL SOIL WHENEVER POSSIBLE.
2. REFER TO DRAWINGS C03 AND C04 FOR NEW CONSTRUCTION IN THIS AREA.

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RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

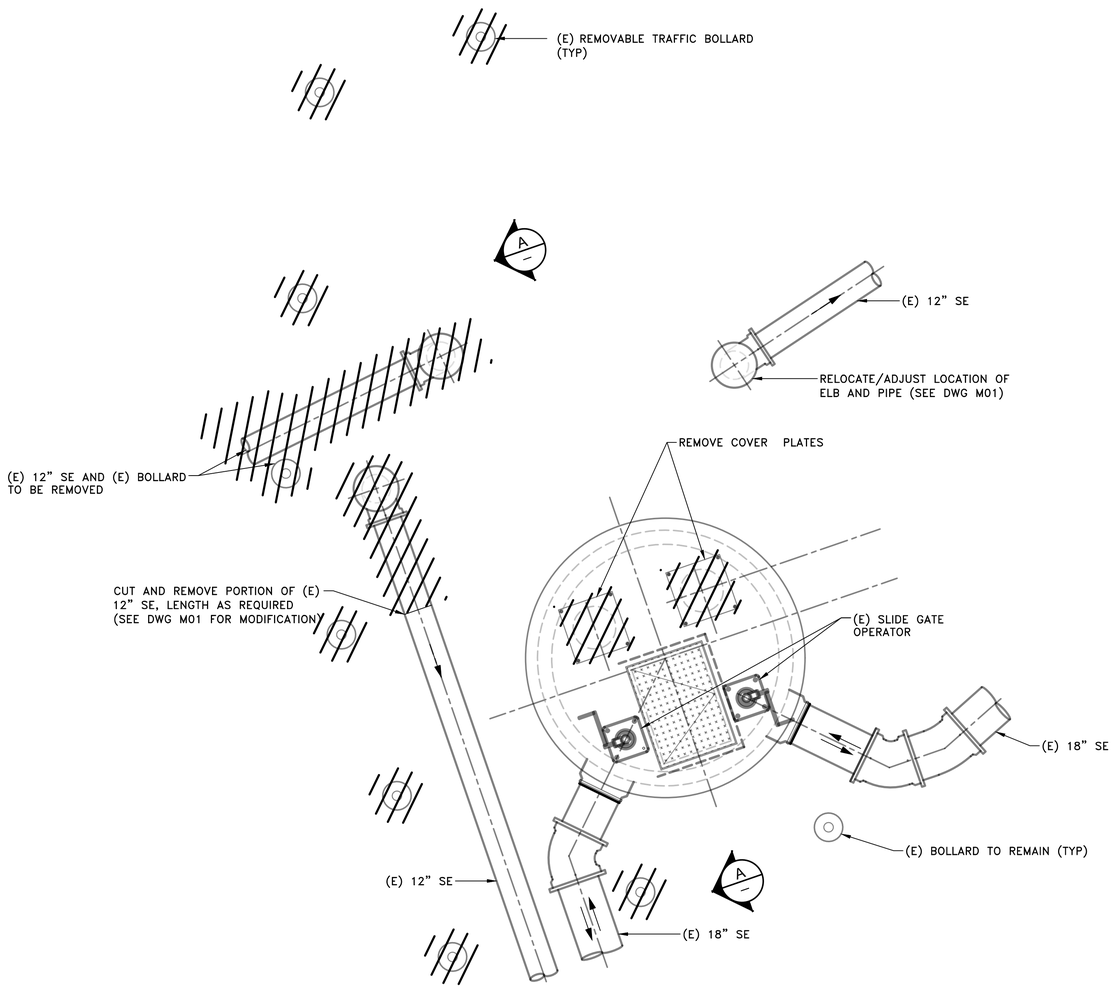
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EXISTING MCPIKE 1-1 IRRIGATION PIPE DEMOLITION PLAN

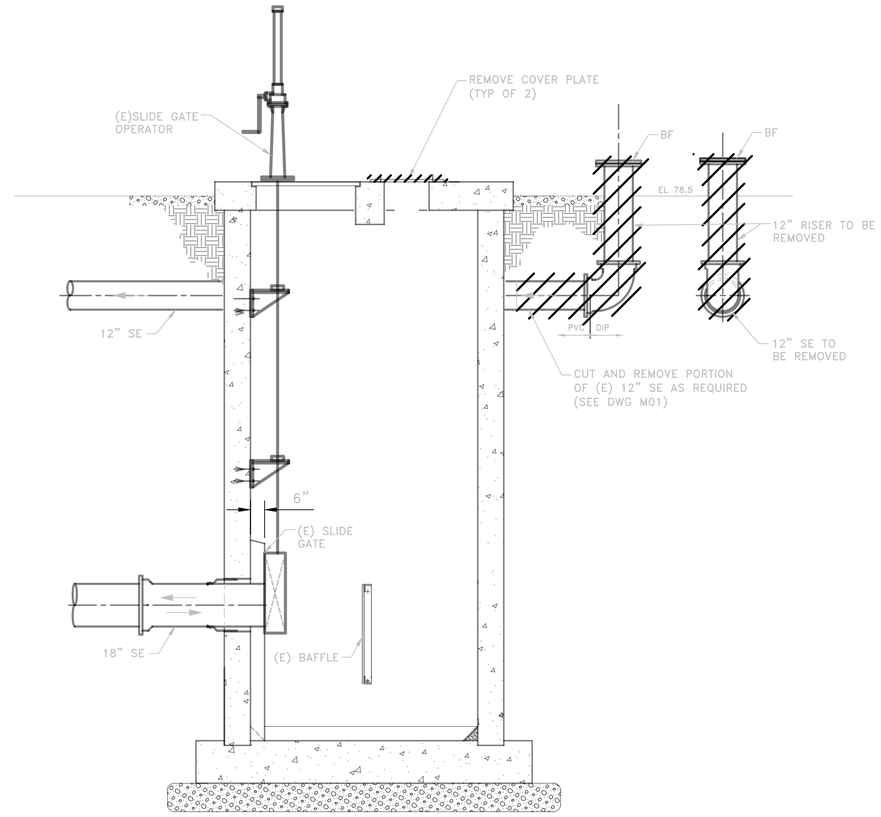
Project No. 2002005593
Scale SEE DWG
Revision
Sheet 7 of 41
Drawing No. D02

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ORIGINAL SHEET - ANSI D



TOP PLAN
SCALE: 3/8"=1'-0"



SECTION
SCALE: 3/8"=1'-0"

NOTES:

1. SEE SPEC 02100 DEMOLITION, CLEARING, GRUBBING AND STRIPING.
2. SEE DWG C10 AND M01 FOR NEW CONSTRUCTION ASSOCIATED WITH THIS STRUCTURE.

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Revision	By	Appd	YYYY.MM.DD

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PAYTON F. RILES
C81353
Exp. 9/30/2019
CIVIL
STATE OF CALIFORNIA

Consultant

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Client/Project Logo

CITY OF NEWMAN AGRICULTURE DAIRY 1888

Client/Project
CITY OF NEWMAN

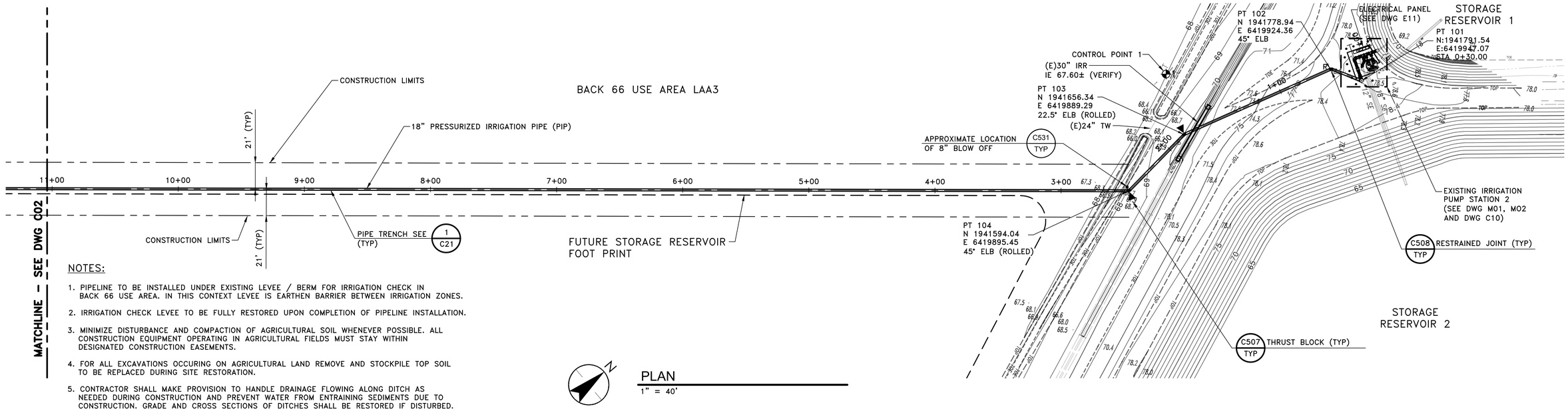
WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

File Name: X05593-D03 | RG Dwn. | PR Dsgn. | GA Chkd. | 2019.08.02 YYYY.MM.DD

Title
IRRIGATION PUMP STATION 2
DEMOLITION

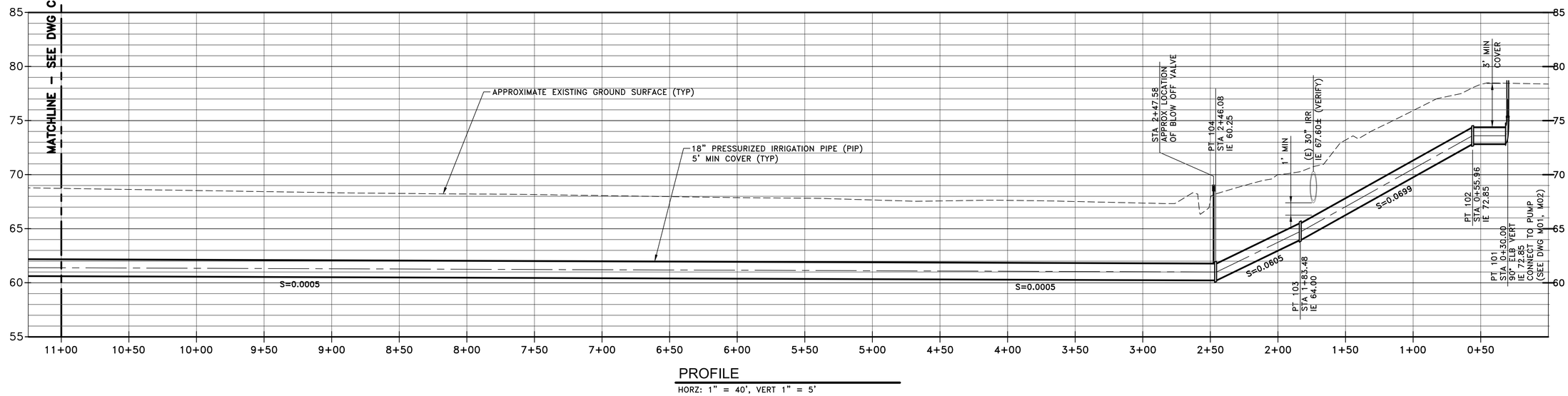
Project No. 2002005593
Scale
Revision
Sheet 8 of 41
Drawing No. D03



NOTES:

1. PIPELINE TO BE INSTALLED UNDER EXISTING LEVEE / BERM FOR IRRIGATION CHECK IN BACK 66 USE AREA. IN THIS CONTEXT LEVEE IS EARTHEN BARRIER BETWEEN IRRIGATION ZONES.
2. IRRIGATION CHECK LEVEE TO BE FULLY RESTORED UPON COMPLETION OF PIPELINE INSTALLATION.
3. MINIMIZE DISTURBANCE AND COMPACTION OF AGRICULTURAL SOIL WHENEVER POSSIBLE. ALL CONSTRUCTION EQUIPMENT OPERATING IN AGRICULTURAL FIELDS MUST STAY WITHIN DESIGNATED CONSTRUCTION EASEMENTS.
4. FOR ALL EXCAVATIONS OCCURING ON AGRICULTURAL LAND REMOVE AND STOCKPILE TOP SOIL TO BE REPLACED DURING SITE RESTORATION.
5. CONTRACTOR SHALL MAKE PROVISION TO HANDLE DRAINAGE FLOWING ALONG DITCH AS NEEDED DURING CONSTRUCTION AND PREVENT WATER FROM ENTRAINING SEDIMENTS DUE TO CONSTRUCTION. GRADE AND CROSS SECTIONS OF DITCHES SHALL BE RESTORED IF DISTURBED.

PLAN
1" = 40'



PROFILE
HORZ: 1" = 40', VERT 1" = 5'

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DAIRY
1888

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WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

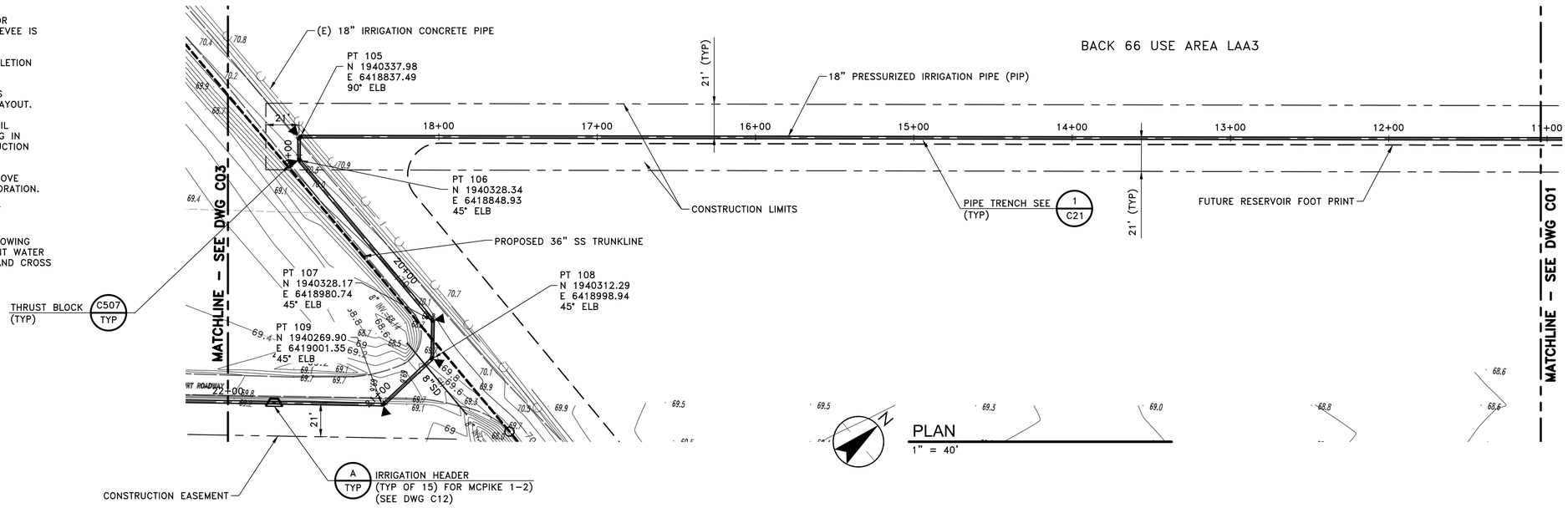
File Name: X05593-PP — RG Dwn. — PR Dsgn. — GA Chkd. — 2019.08.02 YYYY.MM.DD

Title
18" PRESSUSIZED IRRIGATION PIPE PLAN AND PROFILE
STA 0+20 TO STA 11+00

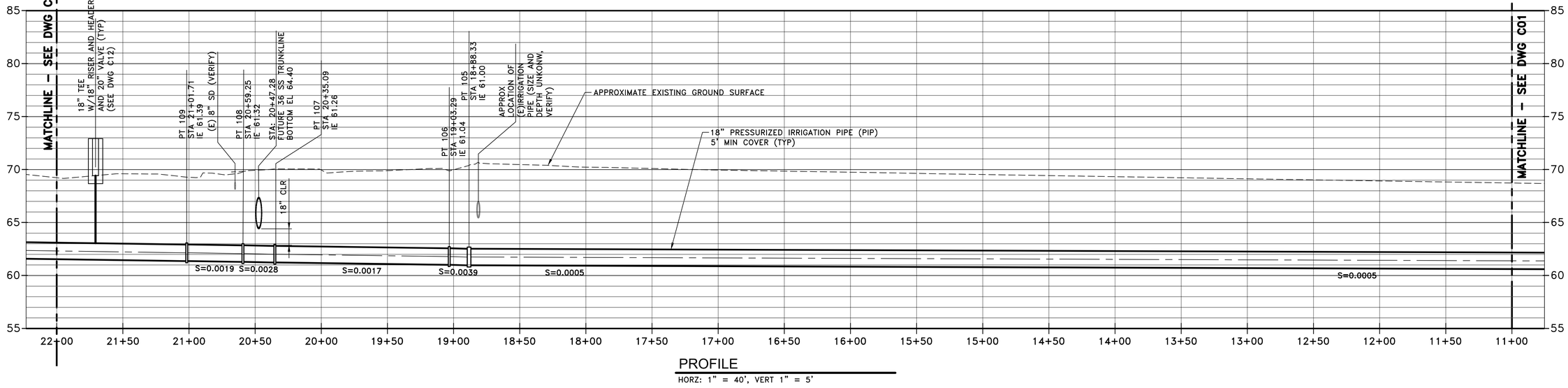
Project No. 2002005593
Scale SEE DWG
Revision
Sheet 9 of 41
Drawing No. C01

NOTES:

1. PIPELINE TO BE INSTALLED UNDER EXISTING LEVEE / BERM FOR IRRIGATION CHECK IN BACK 66 USE AREA. IN THIS CONTEXT LEVEE IS EARTHEN BARRIER BETWEEN IRRIGATION ZONES.
2. IRRIGATION CHECK LEVEE TO BE FULLY RESTORED UPON COMPLETION OF PIPELINE INSTALLATION.
3. LAYOUT OF ALL IRRIGATION VALVES AND IRRIGATION CHECKS IS APPROXIMATE. ENGINEERS APPROVAL IS REQUIRED FOR FINAL LAYOUT.
4. MINIMIZE DISTURBANCE AND COMPACTION OF AGRICULTURAL SOIL WHENEVER POSSIBLE. ALL CONSTRUCTION EQUIPMENT OPERATING IN AGRICULTURAL FIELDS MUST STAY WITHIN DESIGNATED CONSTRUCTION EASEMENTS.
5. FOR ALL EXCAVATIONS OCCURING ON AGRICULTURAL LAND REMOVE AND STOCKPILE TOP SOIL TO BE REPLACED DURING SITE RESTORATION.
6. NEW IRRIGATION VALVES ARE OWNER SELECTED, MINIMUM DUTY CONDITION OF 22 FEET OF HEAD.
7. CONTRACTOR SHALL MAKE PROVISION TO HANDLE DRAINAGE FLOWING ALONG DITCH AS NEEDED DURING CONSTRUCTION AND PREVENT WATER FROM ENTRAINING SEDIMENTS DUE TO CONSTRUCTION. GRADE AND CROSS SECTIONS OF DITCHES SHALL BE RESTORED IF DISTURBED.



PLAN
1" = 40'



PROFILE
HORZ: 1" = 40', VERT 1" = 5'

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Revision	By	Appd	YYYY.MM.DD

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CITY OF NEWMAN

WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

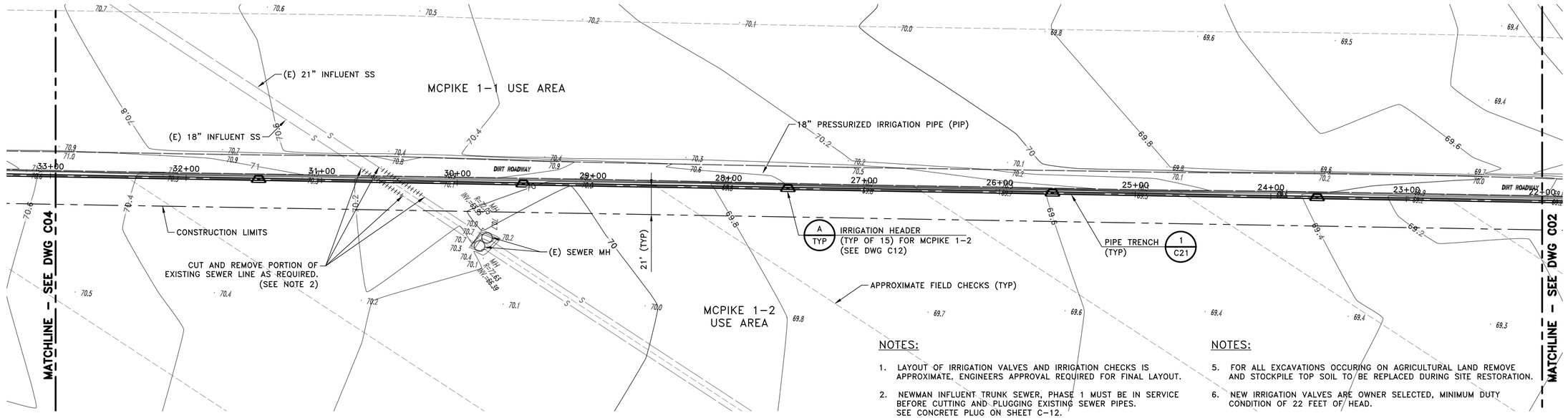
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Title
18" PRESSURIZED IRRIGATION PIPE PLAN AND PROFILE
STA 11+00 TO STA 22+00

Project No. 2002005593
Scale SEE DRAWING
Revision
Sheet 10 of 41
Drawing No. C02

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ORIGINAL SHEET - ANSI D



PLAN

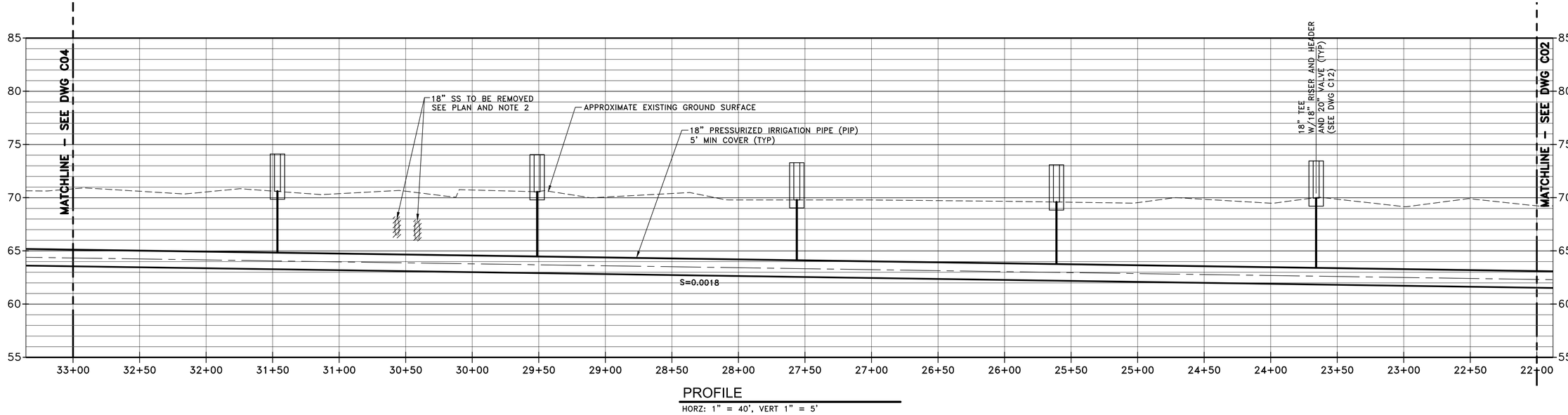
1" 40'

NOTES:

1. LAYOUT OF IRRIGATION VALVES AND IRRIGATION CHECKS IS APPROXIMATE. ENGINEERS APPROVAL REQUIRED FOR FINAL LAYOUT.
2. NEWMAN INFLUENT TRUNK SEWER, PHASE 1 MUST BE IN SERVICE BEFORE CUTTING AND PLUGGING EXISTING SEWER PIPES. SEE CONCRETE PLUG ON SHEET C–12.
3. NO MECHANICAL COMPACTION ALLOWED IN VICINITY OF INFLUENT SEWER. SLURRY BACKFILL WILL BE REQUIRED.
4. MINIMIZE DISTURBANCE AND COMPACTION OF AGRICULTURAL SOIL WHENEVER POSSIBLE. ALL CONSTRUCTION EQUIPMENT OPERATING IN AGRICULTURAL FIELDS MUST STAY WITHIN DESIGNATED CONSTRUCTION EASEMENTS.

NOTES:

5. FOR ALL EXCAVATIONS OCCURING ON AGRICULTURAL LAND REMOVE AND STOCKPILE TOP SOIL TO BE REPLACED DURING SITE RESTORATION.
6. NEW IRRIGATION VALVES ARE OWNER SELECTED, MINIMUM DUTY CONDITION OF 22 FEET OF HEAD.
7. STANDPIPE TO COME STRAIGHT OFF PRIMARY CARRIER PIPE. NO OFFSET ALLOWED.



PROFILE

HORZ: 1" = 40', VERT 1" = 5'

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Consultant

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WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

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Title

18" PRESSURISED IRRIGATION PIPE
PLAN AND PROFILE
STA 22+00 TO STA 33+00

Project No. 2002005593

Scale SCALE

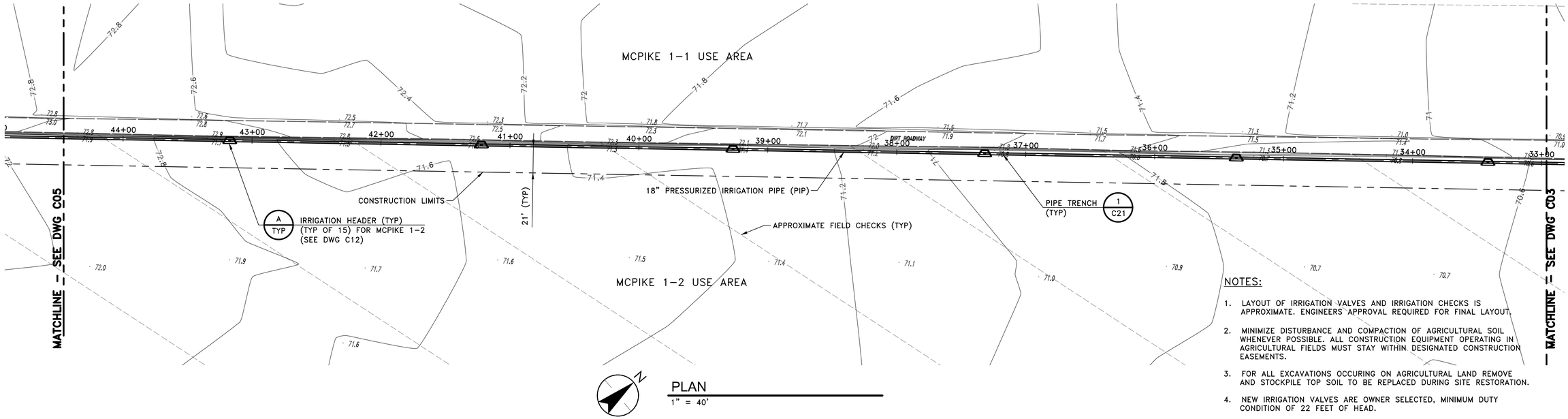
Revision

Sheet 11 of 41

Drawing No. C03

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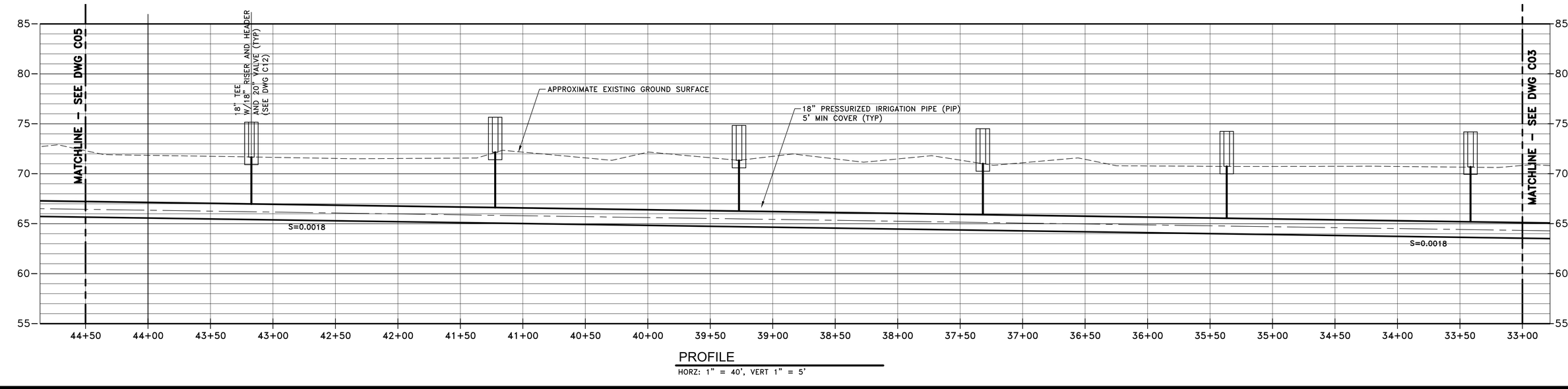
ORIGINAL SHEET - ANSI D



PLAN
1" = 40'

NOTES:

1. LAYOUT OF IRRIGATION VALVES AND IRRIGATION CHECKS IS APPROXIMATE. ENGINEERS APPROVAL REQUIRED FOR FINAL LAYOUT.
2. MINIMIZE DISTURBANCE AND COMPACTION OF AGRICULTURAL SOIL WHENEVER POSSIBLE. ALL CONSTRUCTION EQUIPMENT OPERATING IN AGRICULTURAL FIELDS MUST STAY WITHIN DESIGNATED CONSTRUCTION EASEMENTS.
3. FOR ALL EXCAVATIONS OCCURING ON AGRICULTURAL LAND REMOVE AND STOCKPILE TOP SOIL TO BE REPLACED DURING SITE RESTORATION.
4. NEW IRRIGATION VALVES ARE OWNER SELECTED, MINIMUM DUTY CONDITION OF 22 FEET OF HEAD.



PROFILE
HORZ: 1" = 40', VERT 1" = 5'

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C81353
Exp. 9/30/2019
CIVIL
STATE OF CALIFORNIA

Consultant

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WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

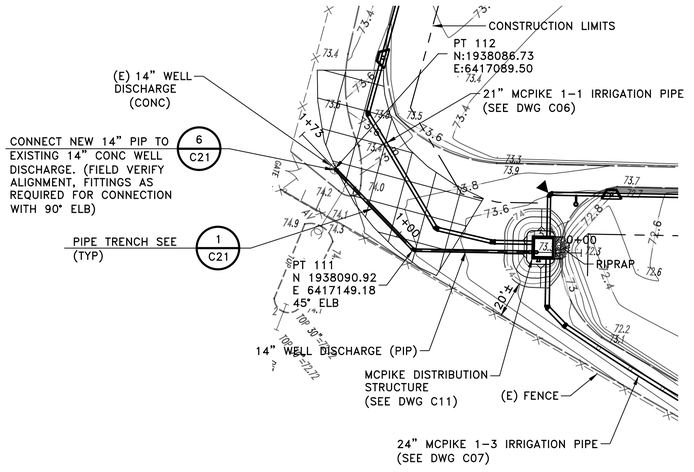
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Title
18" PRESSURISED IRRIGATION PIPE
PLAN AND PROFILE
STA 33+00 TO STA 44+50

Project No. 2002005593
Scale SEE DWG
Revision
Sheet 12 of 41
Drawing No. C04

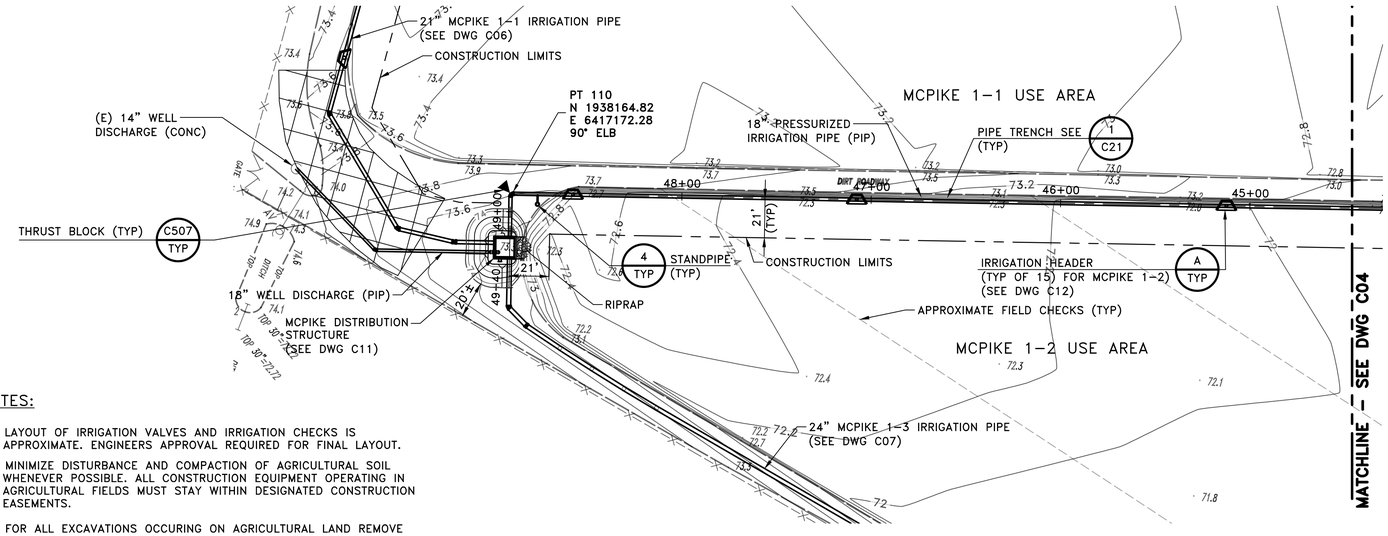
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PLAN

1" = 40'

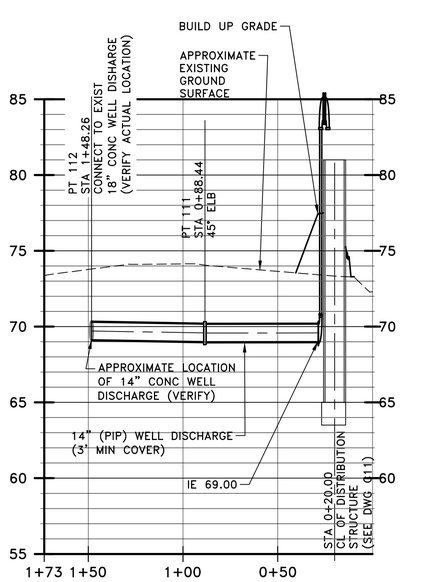


PLAN

1" = 40'

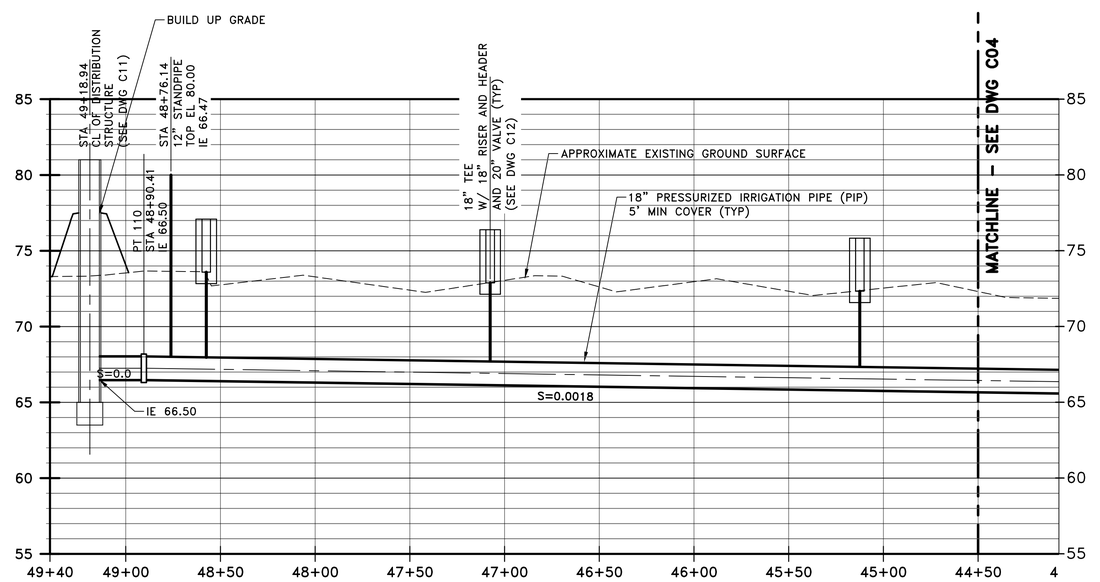
NOTES:

1. LAYOUT OF IRRIGATION VALVES AND IRRIGATION CHECKS IS APPROXIMATE. ENGINEERS APPROVAL REQUIRED FOR FINAL LAYOUT.
2. MINIMIZE DISTURBANCE AND COMPACTION OF AGRICULTURAL SOIL WHENEVER POSSIBLE. ALL CONSTRUCTION EQUIPMENT OPERATING IN AGRICULTURAL FIELDS MUST STAY WITHIN DESIGNATED CONSTRUCTION EASEMENTS.
3. FOR ALL EXCAVATIONS OCCURING ON AGRICULTURAL LAND REMOVE AND STOCKPILE TOP SOIL TO BE REPLACED DURING SITE RESTORATION.
4. NEW IRRIGATION VALVES ARE OWNER SELECTED, MINIMUM DUTY CONDITION OF 22 FEET OF HEAD.
5. NEW GRADING AROUND THE DISTRIBUTION STRUCTURE BOX WILL MAINTAIN 20 FEET WIDE ACCESS CORRIDOR FOR VEHICLES.



PROFILE - 18" WELL DISCHARGE

HORZ: 1" = 40', VERT 1" = 5'



PROFILE

HORZ: 1" = 40', VERT 1" = 5'

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BOTOM F. RILES
C81353
Exp. 9/30/2019
CIVIL
STATE OF CALIFORNIA

Consultant

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AGRICULTURE
1888

Client/Project

CITY OF NEWMAN

WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

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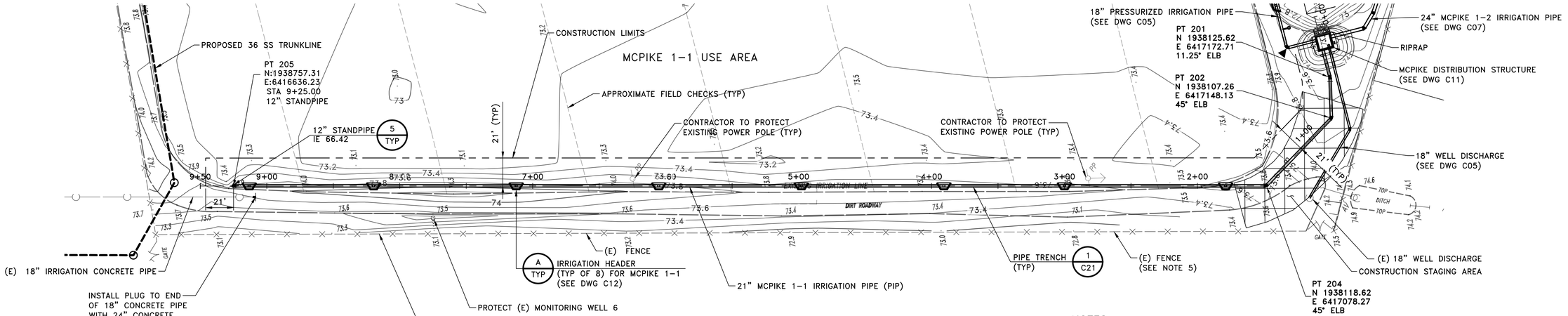
18" PRESSURE IRRIGATION PIPE
PLAN AND PROFILE - STA 44+50 TO STA 49+18.85
AND 18" WELL DISCHARGE -PLAN AND PROFILE

Project No.	Scale
2002005593	SEE DWG
Revision	Sheet
	13 of 41

Drawing No. C05

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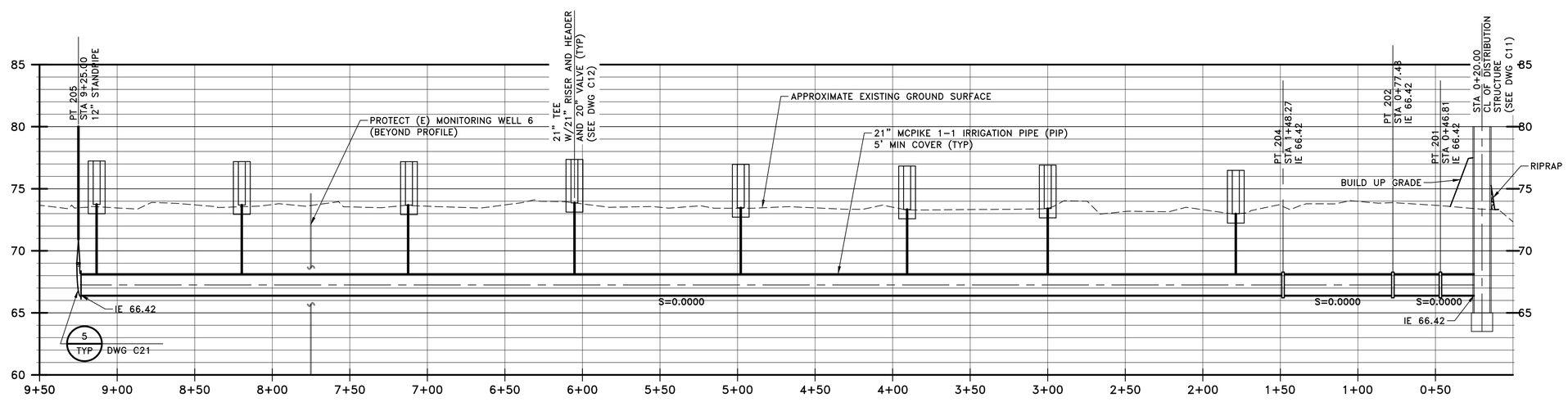
ORIGINAL SHEET - ANSI D



PLAN
1" = 40'

NOTES:

1. LAYOUT OF IRRIGATION VALVES AND IRRIGATION CHECKS IS APPROXIMATE. ENGINEERS APPROVAL REQUIRED FOR FINAL LAYOUT.
2. MINIMIZE DISTURBANCE AND COMPACTION OF AGRICULTURAL SOIL WHENEVER POSSIBLE. ALL CONSTRUCTION EQUIPMENT OPERATING IN AGRICULTURAL FIELDS MUST STAY WITHIN DESIGNATED CONSTRUCTION EASEMENTS.
3. FOR ALL EXCAVATIONS OCCURING ON AGRICULTURAL LAND REMOVE AND STOCKPILE TOP SOIL TO BE REPLACED DURING SITE RESTORATION.
4. NEW IRRIGATION VALVES ARE OWNER SELECTED, MINIMUM DUTY CONDITION OF 22 FEET OF HEAD.
5. CONTRACTOR TO PROTECT EXISTING TREES AND VEGETATION ALONG FENCE.
6. NEW GRADING AROUND THE DISTRIBUTION STRUCTURE BOX WILL MAINTAIN 20 FEET WIDE ACCESS CORRIDOR FOR VEHICLES.



PROFILE
HORZ: 1" = 40', VERT 1" = 5'

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RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

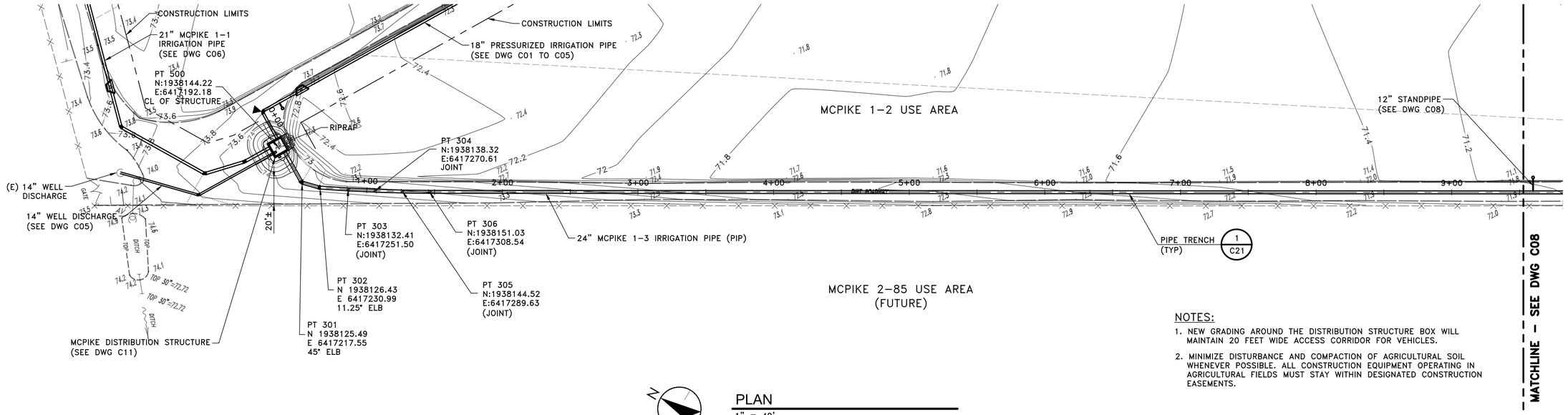
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Title
21" MCPIKE 1-1 IRRIGATION PIPE
PLAN AND PROFILE
STA 0+20 TO STA 9+25

Project No. 2002005593
Scale SEE DWG
Revision
Sheet 14 of 41
Drawing No. C06

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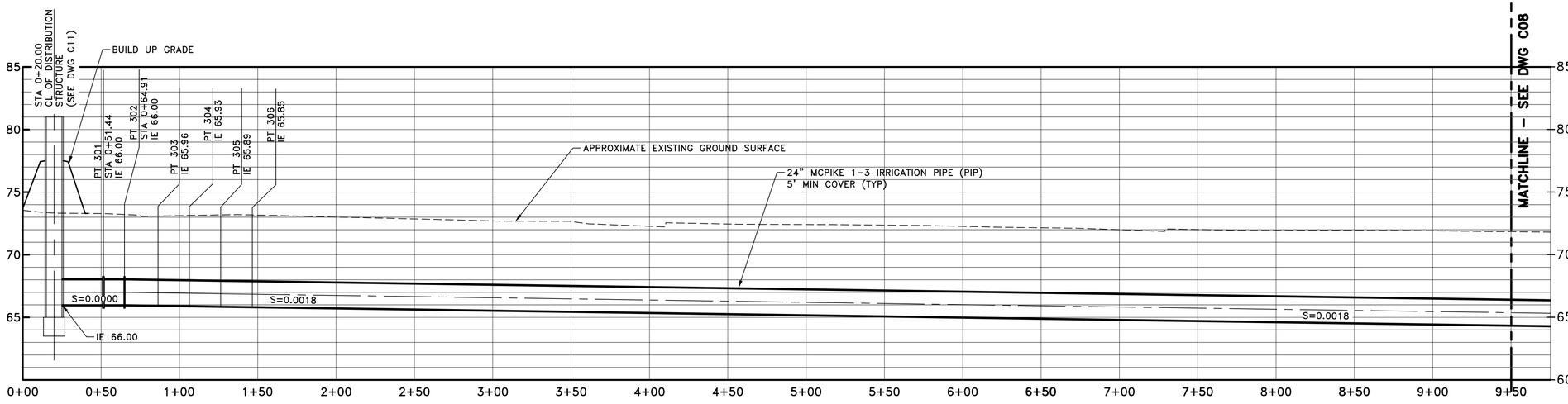
ORIGINAL SHEET - ANSI D



PLAN
1" = 40'

NOTES:

1. NEW GRADING AROUND THE DISTRIBUTION STRUCTURE BOX WILL MAINTAIN 20 FEET WIDE ACCESS CORRIDOR FOR VEHICLES.
2. MINIMIZE DISTURBANCE AND COMPACTION OF AGRICULTURAL SOIL WHENEVER POSSIBLE. ALL CONSTRUCTION EQUIPMENT OPERATING IN AGRICULTURAL FIELDS MUST STAY WITHIN DESIGNATED CONSTRUCTION EASEMENTS.



PROFILE
HORZ: 1" = 40', VERT 1" = 5'

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WWTRF MCPIKE 1
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NEWMAN, CALIFORNIA

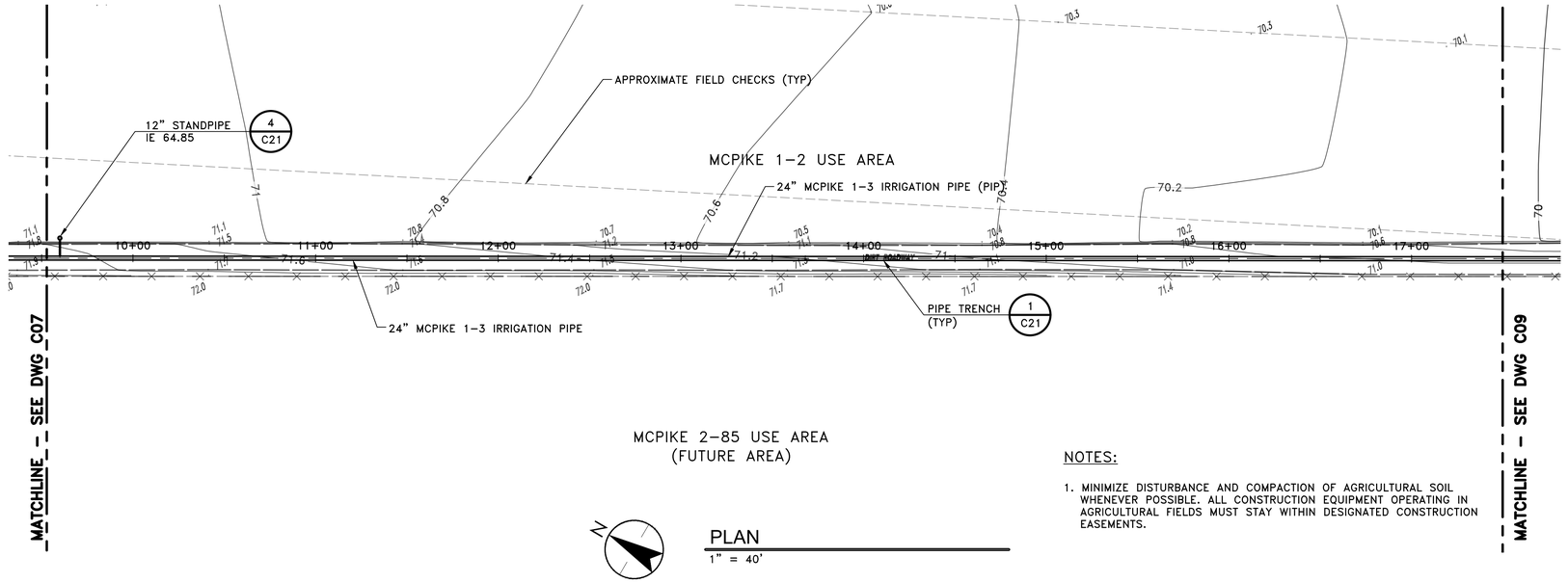
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Title
24" MCPIKE 1-3 IRRIGATION PIPE
PLAN AND PROFILE 1
STA 0+20 TO STA 9+50

Project No. 2002005593
Scale SEE DWG
Revision
Sheet 15 of 41
Drawing No. C07

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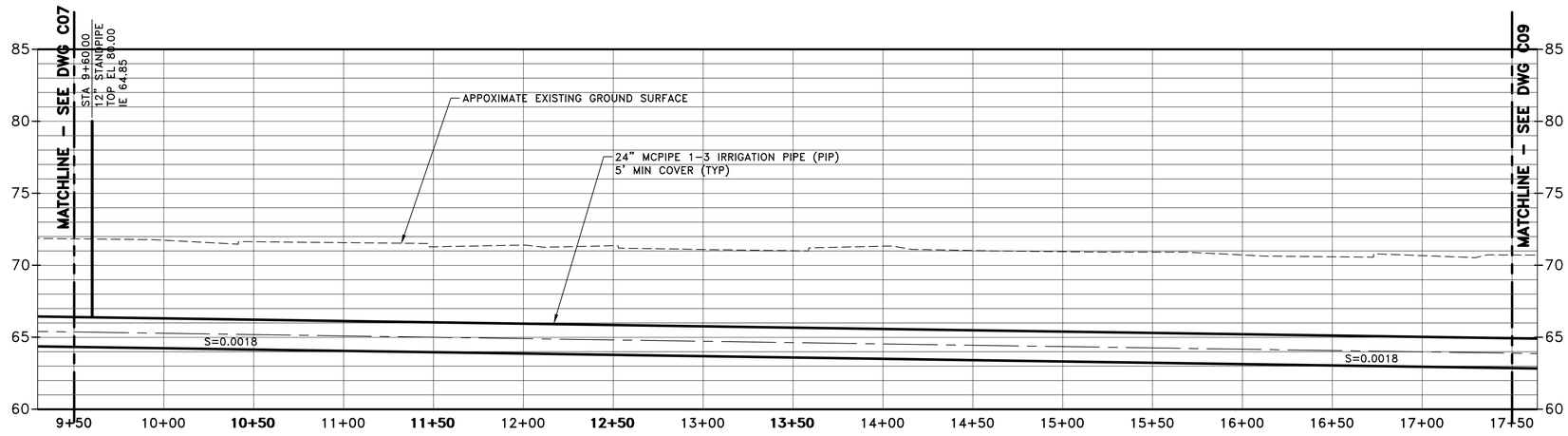


MCPIKE 2–85 USE AREA
(FUTURE AREA)

PLAN
1" = 40'

NOTES:

1. MINIMIZE DISTURBANCE AND COMPACTION OF AGRICULTURAL SOIL WHENEVER POSSIBLE. ALL CONSTRUCTION EQUIPMENT OPERATING IN AGRICULTURAL FIELDS MUST STAY WITHIN DESIGNATED CONSTRUCTION EASEMENTS.



PROFILE
HORZ: 1" = 40', VERT 1" = 5'

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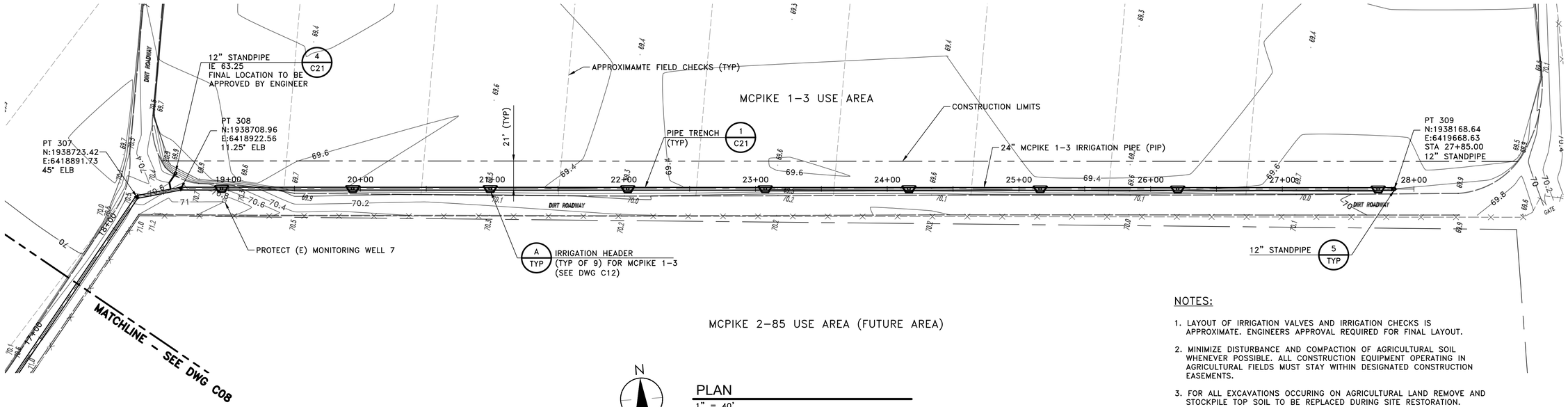
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	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
24" MCPIKE 1-3 IRRIGATION PIPE
PLAN AND PROFILE 2
STA 9+50 TO STA 17+50

Project No. 2002005593
Scale SEE DWG
Revision
Sheet 16 of 41
Drawing No. C08

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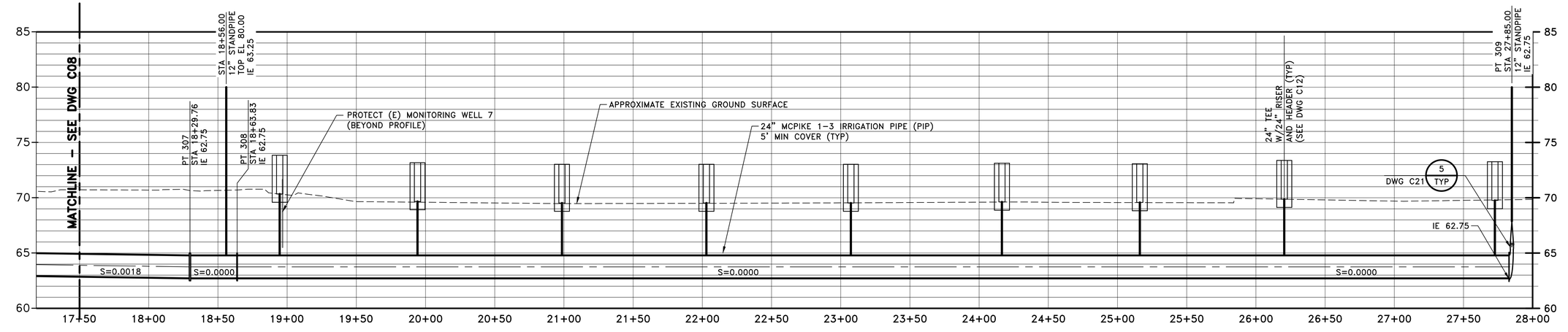
ORIGINAL SHEET - ANSI D



PLAN
1" = 40'

NOTES:

1. LAYOUT OF IRRIGATION VALVES AND IRRIGATION CHECKS IS APPROXIMATE. ENGINEERS APPROVAL REQUIRED FOR FINAL LAYOUT.
2. MINIMIZE DISTURBANCE AND COMPACTION OF AGRICULTURAL SOIL WHENEVER POSSIBLE. ALL CONSTRUCTION EQUIPMENT OPERATING IN AGRICULTURAL FIELDS MUST STAY WITHIN DESIGNATED CONSTRUCTION EASEMENTS.
3. FOR ALL EXCAVATIONS OCCURING ON AGRICULTURAL LAND REMOVE AND STOCKPILE TOP SOIL TO BE REPLACED DURING SITE RESTORATION.
4. NEW IRRIGATION VALVES ARE OWNER SELECTED, MINIMUM DUTY CONDITION OF 22 FEET OF HEAD.



PROFILE
HORZ: 1" = 40', VERT 1" = 5'

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Title
24" MCPIKE 1-3 IRRIGATION PIPE
PLAN AND PROFILE 3
STA 17+50 TO STA 28+00

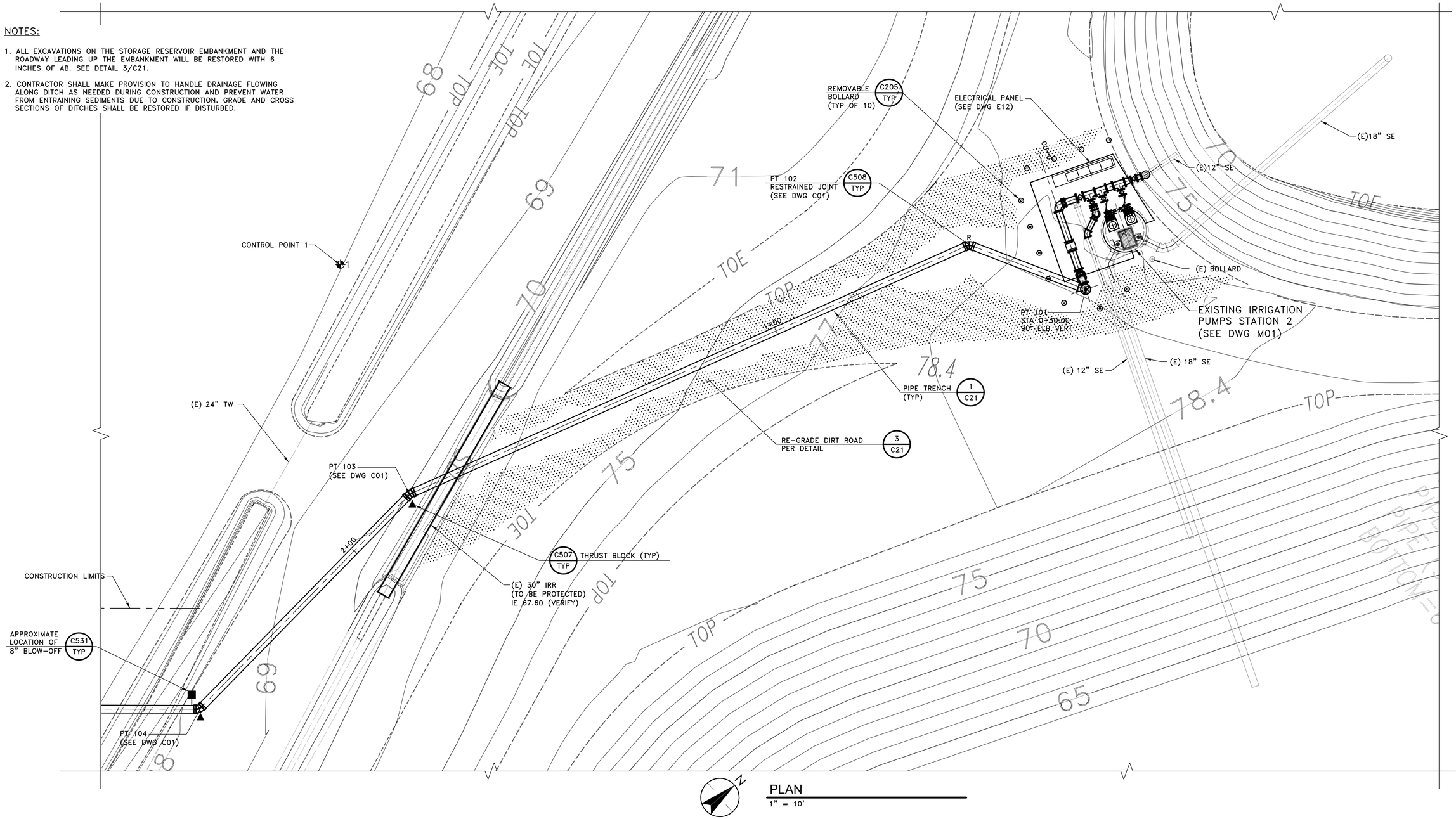
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Scale SEE DWG
Revision
Sheet 17 of 41
Drawing No. C09

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ORIGINAL SHEET - ANSI D

NOTES:

1. ALL EXCAVATIONS ON THE STORAGE RESERVOIR EMBANKMENT AND THE ROADWAY LEADING UP THE EMBANKMENT WILL BE RESTORED WITH 6 INCHES OF AB. SEE DETAIL 3/C21.
2. CONTRACTOR SHALL MAKE PROVISION TO HANDLE DRAINAGE FLOWING ALONG DITCH AS NEEDED DURING CONSTRUCTION AND PREVENT WATER FROM ENTRAINING SEDIMENTS DUE TO CONSTRUCTION. GRADE AND CROSS SECTIONS OF DITCHES SHALL BE RESTORED IF DISTURBED.



PLAN
1" = 10'

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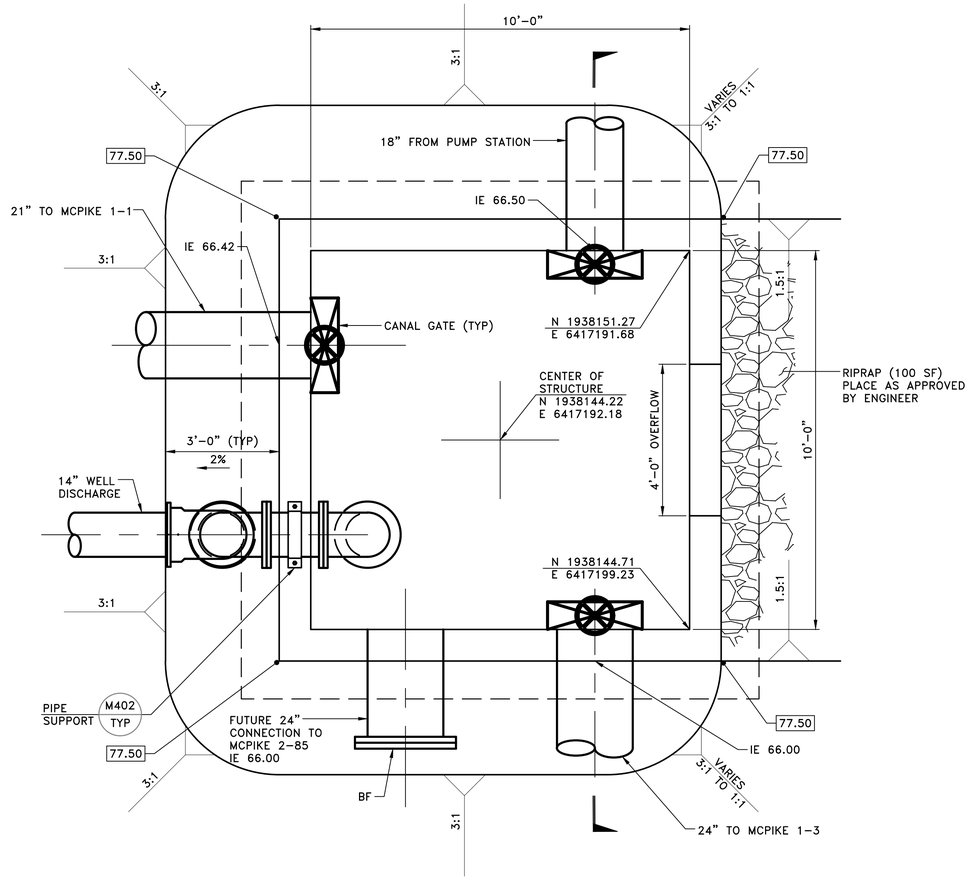
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Title
IRRIGATION PUMP STATION 2
SITE PLAN

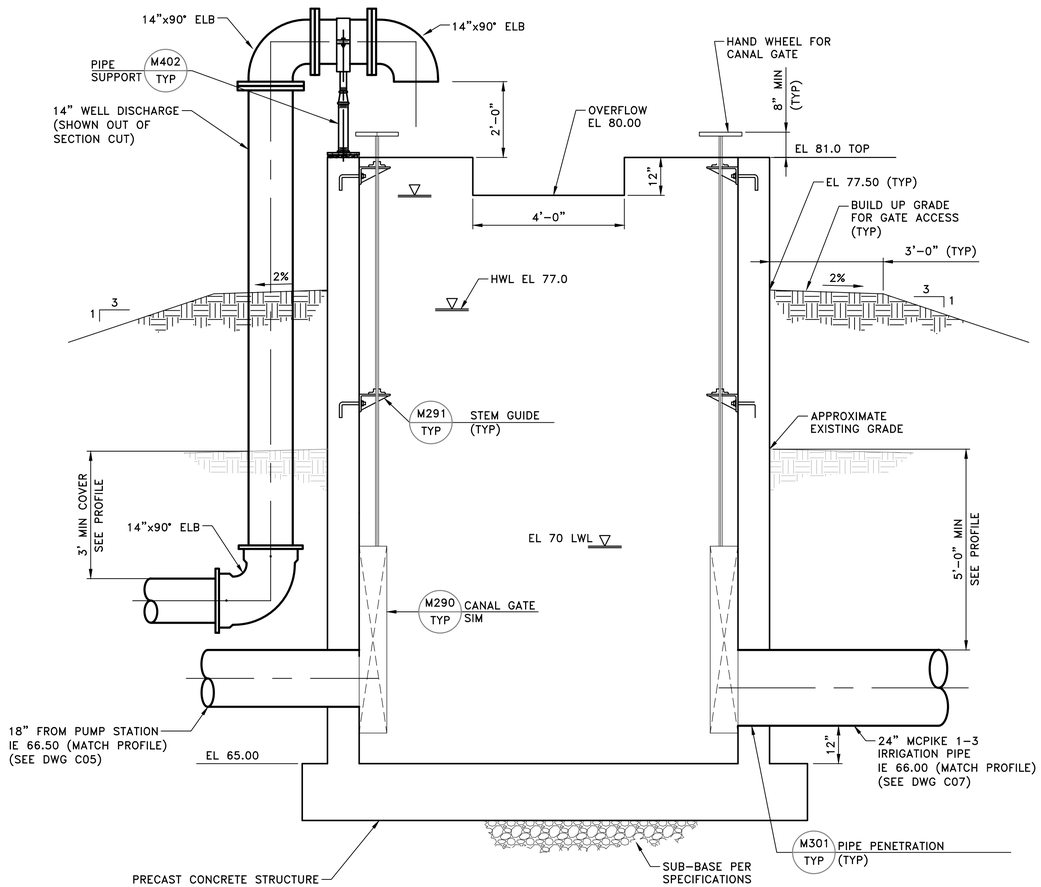
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Scale SEE DWG
Revision
Sheet 18 of 41
Drawing No. C10

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ORIGINAL SHEET - ANSI D



PLAN
DISTRIBUTION STRUCTURE
1/2" = 1'-0"



SECTION
DISTRIBUTION STRUCTURE
1/2" = 1'-0"

NOTES:

1. THREE GATES WILL BE SIZED AS SHOWN TO MATCH PIPE SIZE.
2. GATES WILL HAVE A MAIMUM SEATING HEAD AND UNSEATING HEAD OF 13.5 FEET.
3. WILL BE FLAT BACK WITH AN UPWARD OPENING AND SEAL ALL SIDES.
4. INSTALL ALL GATES PER MANUFACTURER SPECIFICATIONS.

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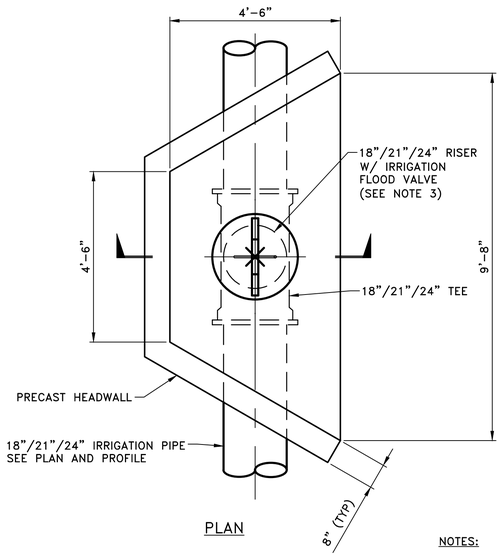
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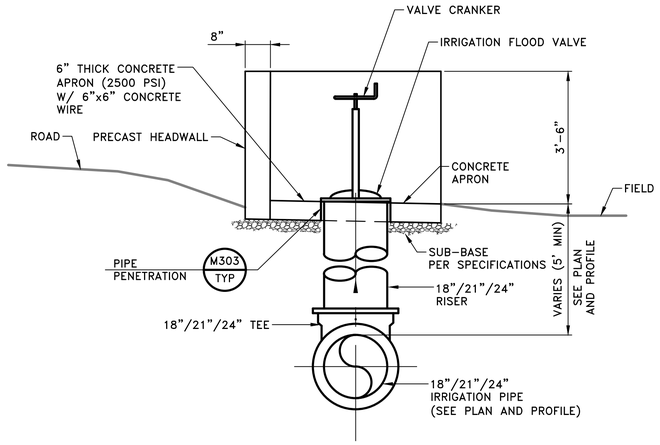
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Title
MCPIKE DISTRIBUTION STRUCTURE
PLAN AND SECTION

Project No. 2002005593
Scale SCALE
Revision
Sheet 19 of 41
Drawing No. C11



PLAN



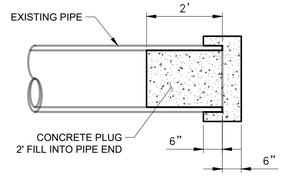
SECTION

NOTES:

1. CONTRACTOR TO DETERMINE CONNECTION TO FLOOD VALVE
2. IRRIGATION VALVES ARE OWNER SELECTED. MINIMUM DUTY CONDITION OF 22 FEET OF HEAD
3. FOR 18" AND 21" RISER USE 20" FLOOD VALVE. FOR 24" RISER, USE 24" FLOOD VALVE
4. RESTRAIN PIPE REQUIRED FOR PRESSURE TEST, INCLUDING RISER WITH TEMPORARY RETRAINED CAP OR PLUG. AFTER PRESSURE TEST, INSTALL IRRIGATION FLOOD VALVE. ATTACH IRRIGATION VALVE TO RISER PIPE SUFFICIENT TO ACHIEVE THE VALVE'S RATED PRESSURE CAPACITY. SUBMIT DETAIL FOR APPROVAL.

A TYP — PRE-CAST IRRIGATION HEADER

1/2" = 1'-0"



CONCRETE PLUG AT PIPE — 2 TYP

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File Name: X05593-C12 | RG Dwn. | PR Dsgn. | GA Chkd. | 2019.08.02 YYYY.MM.DD

Title

MISCELLENEOUS CIVIL DETAILS

Project No. 2002005593

Scale

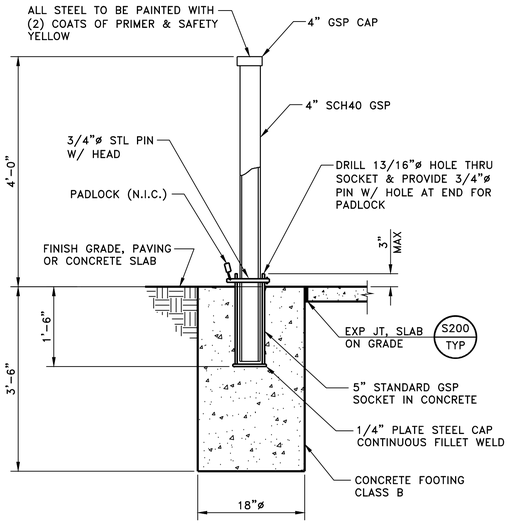
Revision

Sheet 20 of 41

Drawing No. C12

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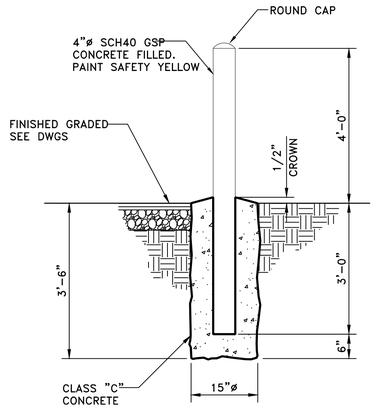
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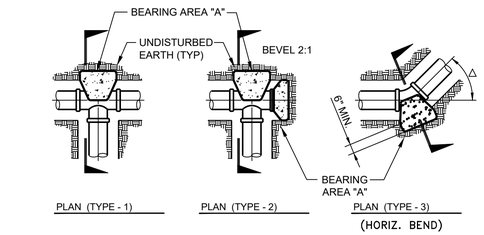
C205 TYP

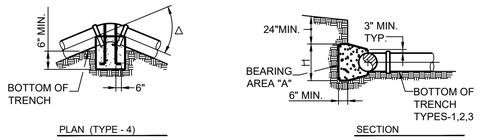


BARRIER POST

SCALE: NONE

C200 TYP





THRUST BLOCKS SCHEDULE

PIPE DIA. (in.)	TEST PESSURE (P.S.I.)	THRUST BLOCK BEARING AREA "A" (S.F.) / ANCHOR BLOCK VOL. OF CONCRETE (C.Y.)				
		△ 90°	△ 45°	△ 22.5°	△ 11.25°	TEE OR BULKHEAD
8"	10	0.5 / 0.16	0.3 / 0.10	0.1 / 0.03	0.1 / 0.03	0.3 / 0.10
10"	10	0.8 / 0.26	0.4 / 0.13	0.2 / 0.07	0.1 / 0.03	0.5 / 0.16
12"	10	1.1 / 0.36	0.6 / 0.19	0.3 / 0.10	0.2 / 0.07	0.8 / 0.26
14"	10	1.5 / 0.48	0.8 / 0.26	0.4 / 0.13	0.2 / 0.07	1.1 / 0.36
16"	10	2.0 / 0.65	1.1 / 0.37	0.5 / 0.17	0.3 / 0.10	1.4 / 0.47
18"	10	2.5 / 0.83	1.4 / 0.47	0.7 / 0.23	0.3 / 0.10	1.8 / 0.60
20"	10	3.1 / 1.00	1.7 / 0.57	0.9 / 0.29	0.4 / 0.13	2.2 / 0.73
24"	10	4.4 / 1.42	2.4 / 0.77	1.2 / 0.39	0.6 / 0.19	3.1 / 1.00
30"	10	6.9 / 2.23	3.8 / 1.23	1.9 / 0.61	1.0 / 0.33	4.9 / 1.58
36"	10	10.0 / 3.23	5.4 / 1.74	2.8 / 0.90	1.4 / 0.45	7.1 / 2.30
42"	10	13.6 / 4.39	7.4 / 2.39	3.8 / 1.23	1.9 / 0.61	9.6 / 3.10

REBAR SIZES

PIPE SIZE	△	REBAR
6"-10"	0-90°	#5
12"-20"	0-225°	#5
24"	0-225°	#6
12"-20"	45°	#7
12"-16"	90°	#8

SEE NOTE 4

NOTES:

1. THRUST BLOCKS ARE ONLY ALLOWED AT LOCATIONS SPECIFIED BY PIPE SERVICE OR AS APPROVED BY THE ENGINEER. PIPE TEST PRESSURE LESS THAN OR EQUAL TO 10 psi DO NOT REQUIRE RESTRAINT, TEST PRESSURE GREATER THAN 10 psi REQUIRE RESTRAINT. AREAS GIVEN ARE FOR 10 psi, ADJUST AREAS ACCORDING TO TEST PRESSURE. SEE SPECIFICATION SECTION 15010.
2. BLOCKS TO BE POURED AGAINST UNDISTURBED SOIL.
3. JOINTS AND FACE OF PLUGS SHALL BE KEPT CLEAN OF CONCRETE.
4. COAT REBAR WITH TWO COATS OF KOPPERS 505, TNEMEC 46-450, OR EQUAL, 15 MILS EACH COAT
5. MAXIMUM PRESSURE 22 FEET OF HEAD.

TYPICAL THRUST BLOCK

SCALE: NONE

C507 TYP

RESTRAINED LENGTH SCHEDULE

PIPE DIA. (in.)	TEST PESSURE (P.S.I.)	LENGTH "L" (FT)				
		△ 45°	△ 90°	TEE RUN	TEE BRANCH	REDUCER
4	100	6	14	NOTE 4	36	
6	100	8	19	NOTE 4	54	
8	100	10	25	NOTE 4	74	
10	100	12	30	NOTE 4	79	
12	100	14	35	NOTE 4	97	64 (12"x 8")
14	100	16	39	NOTE 4	112	
16	100	18	44	NOTE 4	119	
18	100	20	48	NOTE 4	124	93 (18"x 12)
20	100	22	52	NOTE 4	139	
24	100	25	60	NOTE 4	168	

NOTES:

1. PIPE JOINTS AND FITTINGS SHALL BE RESTRAINED A MINIMUM LENGTH AS SHOWN IN THE ABOVE TABLE.
2. PIPE TEST PRESSURES LESS THAN OR EQUAL TO 10 PSI DO NOT REQUIRE RESTRAINT; TEST PRESSURE GREATER THAN 10 PSI REQUIRE RESTRAINT. LENGTHS GIVEN ABOVE ARE FOR 100 PSI. ADJUST LENGTHS ACCORDING TO TEST PRESSURE (EG. FOR 150 PSI-MULTIPLY SCHEDULE LENGTH VALUES BY 1.5). SEE SPECIFICATION SECTION 15010 FOR TEST PRESSURES.
3. CONTRACTOR SHALL INSTALL ONE FULL LENGTH PIPE EITHER SIDE OF TEE RUN.
4. TEE RUN RESTRAINT SHALL BE PER FITTING ADJACENT TO TEE AS REQUIRED.
5. MAXIMUM PRESSURE 22 FEET OF HEAD.

PIPE RESTRAINED LENGTH SCHEDULE

SCALE: NONE

C508 TYP

NOTES:

1. ALL PIPE SHALL BE DUCTILE IRON WITH RESTRAINED JOINTS.
2. SEE PLANS FOR BLOW-OFF SIZE.

BLOW-OFF VALVE

SCALE: NONE

C531 TYP

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Consultant

WARNING

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Client/Project Logo

CITY OF NEWMAN — AGRICULTURE 1888

Client/Project

CITY OF NEWMAN

WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

File Name: X05593-C20 | RG Dwn. | PR Dsgn. | GA Chkd. | 2019.08.02 YYYY.MM.DD

Title

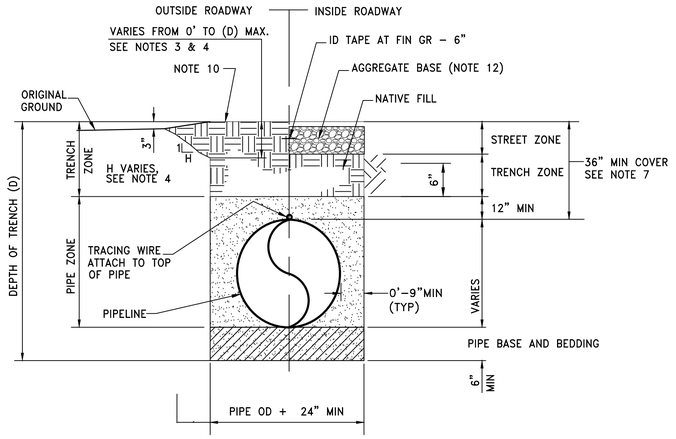
TYPICAL CIVIL DETAILS 1

Project No. 2002005593 | Scale SCALE

Revision | Sheet 21 of 41 | Drawing No. C20

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ORIGINAL SHEET - ANSI D



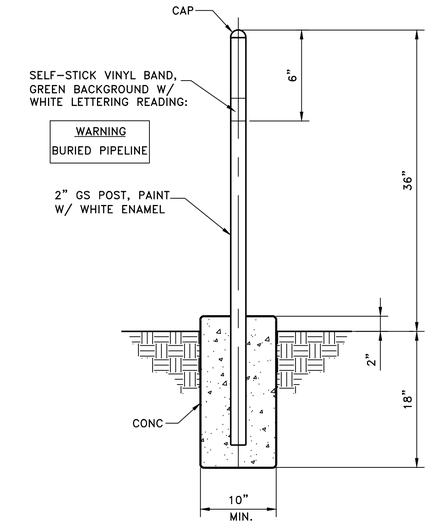
TRENCH NOTES:

1. PIPE BEDDING ZONE AND TRENCH ZONE BACKFILL SHALL BE COMPACTED PER SPECIFICATIONS.
2. TO AVOID PIPE DAMAGE, PIPE ZONE MATERIAL SHALL BE NON-ANGULAR WHEN PVC OR POLYETHYLENE PIPE IS USED.
3. ALL EXCAVATIONS SHALL COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS INCLUDING CURRENT OSHA EXCAVATION AND TRENCH SAFETY STANDARDS. RESULTS OF THE PRELIMINARY FIELD INVESTIGATIONS ARE INCLUDED IN CONTRACT SPECIFICATIONS.
4. CONTRACTOR TO DETERMINE ACCEPTABLE TRENCH SIDE SLOPES, IN ACCORDANCE WITH OSHA REQUIREMENTS.
5. FOR BACKFILL MATERIAL REQUIREMENTS, SEE SPECS. PONDING OR JETTING IS NOT AN ACCEPTABLE MEANS OF COMPACTION.
6. TYPICAL PIPE TRENCH DETAIL SHALL BE UTILIZED UNLESS NOTED OTHERWISE.
7. MINIMUM COVER OF 36" REQUIRED IN ROADWAYS. 60" MINIMUM COVER OUTSIDE ROADWAYS.
8. STREET ZONE SHALL MATCH EXISTING SECTION OR 12" AB, WHICHEVER IS GREATER.
9. LOCATING WIRE SHALL BE SOLID INSULATED, #10 AWG COPPER WIRE, SOFT DRAWN.
10. ALL TOP SOIL TO BE RESERVED TO COVER BACK EXCAVATIONS FOLLOWING CONSTRUCTION.
11. AERATE/DISK FARM SOILS AFTER CONSTRUCTION, AS APPROVED BY ENGINEER.
12. WHERE THERE IS NO AGGREGATE FOUND ON ROAD WAY, RE-COMPACT SOIL TO 95% DENSITY.

TYPICAL PIPE TRENCH

SCALE: NONE

1 TYP



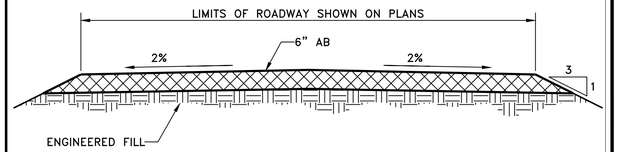
NOTE:
IF PIPE MARKER IS OFFSET TO ALLOW ACCESS INDICATE OFFSET DISTANCE AND DIRECTION.

WARNING
BURIED PIPELINE
6FT TO THE NORTH

PIPELINE MARKER

SCALE: NONE

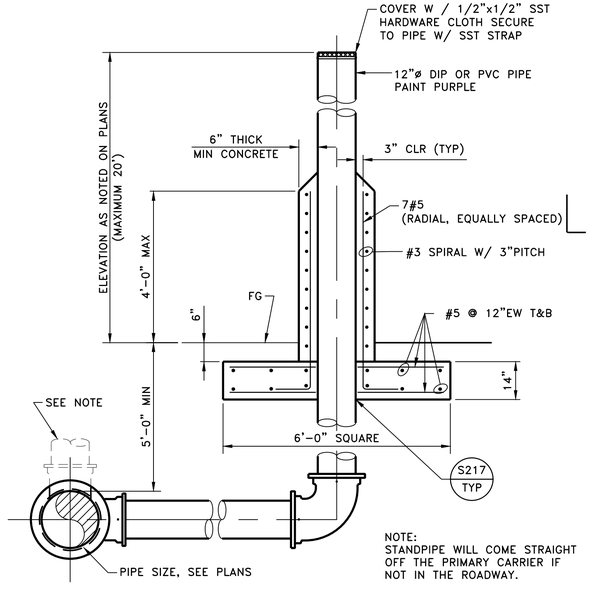
2 TYP



AGGREGATE BASE ROADWAY

SCALE: NONE

3 TYP

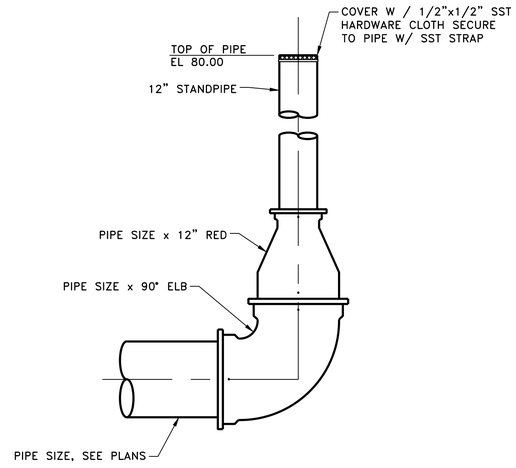


NOTE:
STANDPIPE WILL COME STRAIGHT OFF THE PRIMARY CARRIER IF NOT IN THE ROADWAY.

TYPICAL STANDPIPE

NTS

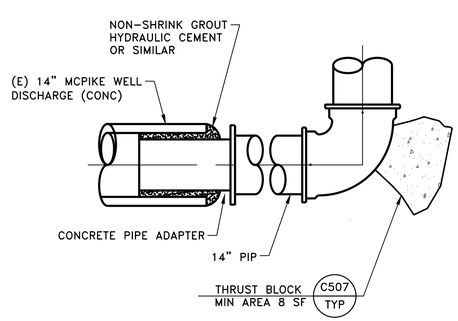
4 TYP



TYPICAL STANDPIPE AT END OF PIPE

NTS

5 TYP



NOTES:
1. CONDITION OF EXISTING WELL DISCHARGE IS UNKNOWN, CONTRACTOR TO VERIFY METHOD OF CONNECTION
2. CUT EXISTING PIPE BACK TO A LOCATION THAT IS SOUND AND FREE OF CRACKS.
3. PREPARE CONCRETE PIPE ADAPTER SURFACE TO PROVIDE MAXIMUM SEAL.
4. MAXIMUM OPERATING PRESSURE OF 10 PSI.
5. INSERT PIPE SHALL BE 14" PVC, DR18 (UNDERGROUND) AND 14" DIP (FROM 3 FEET BELOW GRADE TO AND INCLUDING ABOVE GRADE). PROVIDE FABRICATED TRANSITION FITTING BETWEEN MATERIALS. ALL PIPE SHALL BE RESTRAINED. THRUST BLOCK MAY BE UTILIZED.

MCPIKE WELL CONNECTION DETAIL

NTS

6 TYP

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Revision	By	Appd	YYYY.MM.DD

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CITY OF NEWMAN — AGRICULTURE — DAIRY — 1888

Client/Project

CITY OF NEWMAN

WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

File Name: X05593-C21	RG Dwn.	PR Dsgn.	GA Chkd.	2019.08.02 YYYY.MM.DD

Title

TYPICAL CIVIL DETAILS 2

Project No.	Scale
2002005593	
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ORIGINAL SHEET - ANSI D

ABBREVIATIONS:

ADDL	ADDITIONAL
AB	AGGREGATE BASE, ANCHOR BOLT
AC	ASPHALT CONCRETE
ACP	ASBESTOS CEMENT PIPE
AL	ALUMINUM
ALT	ALTERNATE
APPROX	APPROXIMATE (LY)
ARCH	ARCHITECTURAL
@	AT
BETW	BETWEEN
BEV	BEVELED
BLKG	WOOD BLOCKING
BOT	BOTTOM
BRG	BEARING
BLDG	BUILDING
BF	BOTTOM OF FOOTING
B/W	BACK OF WALL
BIT CTD	BITUMINOUS COATED
CHK PL	CHECKERED PLATE
CLR	CLEAR
CL	CENTER LINE
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CC	CENTER TO CENTER
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CJ	CONSTRUCTION JOINT
CONT	CONTINOUS
CT J	CONTROL JOINT
CR J	CONTRACTION JOINT
CIP	CAST-IN-PLACE
CIDH	CAST-IN-DRILLED-HOLE
CTR	CENTER (ED)
CG	CENTER OF GRAVITY
CONST	CONSTRUCTION
COORD	COORDINATE
CSK	COUNTER SINK
CAB	CRUSHED AGGREGATE BASE
CAP	CORRUGATED ALUMINUM PIPE
D	DEPTH
db	BAR DIAMETER
DF	DOUGLAS FIR
DEMO	DEMOLITION
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DWG	DRAWING
DL	DEAD LOAD
DIST	DISTANCE
DD	DOWN DRAIN
DIAPH	DIAPHRAGM
DSA	DIVISION OF STATE ARCHITECT
EXIST, (E)	EXISTING
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL, ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EXT	EXTERIOR
EMBED	EMBEDMENT
EN	EDGE NAILING
ES	EACH SIDE
EW	EACH WAY
ENGR	ENGINEER, ENGINEERING
EXC	EXCAVATION
EXP	EXPANSION
FAB	FABRICATE
F & I	FURNISH AND INSTALL
FB	FACE OF BLOCK
FC	FACE OF CONCRETE
FD	FLOOR DRAIN
FF	FINISHED FLOOR, FACE OF FRAMING
FDN	FOUNDATION
FG	FINISHED GRADE
FS	FINISHED SURFACE, FACE OF STUD
F/S	FAR SIDE
FLG	FLANGE
FN	FIELD NAILING
FTG	FOOTING
FW	FACE OF WALL
FT	FEET (FOOT)
GA	GAGE
GAF	GALVANIZE AFTER FABRICATION
GALV	GALVANIZED
GS	GALVANIZED STEEL
GR	GUARD RAILING, GRADE
GTR	GUTTER
GRTG	GRATING
GSP	GALVANIZED STEEL PIPE
H	HIGH OR HEIGHT
HA	HEADED ANCHOR
HR	HANDRAIL
HSB	HIGH STRENGTH BOLT
HORIZ	HORIZONTAL
HW	HEAD WALL
HS	HIGH STRENGTH

ABBREVIATIONS (Continued):

ID	INSIDE DIAMETER
INCL	INCLUDING
INSP	INSPECTION
INV	INVERT
IE	INVERT ELEVATION
IF	INSIDE FACE
IN	INCH
JT	JOINT
JCT	JUNCTION
KP	KICK PLATE
KIPS	KILO POUNDS
L	LENGTH
LS	LAG SCREW
LAT	LATERAL
LB	POUND
LF	LINEAR FOOT
LL	LIVE LOAD
LT	LEFT
LONG	LONGITUDE
LONGIT	LONGITUDINAL
LTS	LIME TREATED SOIL
MANUF	MANUFACTURER
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MIN	MINIMUM
MPH	MILES PER HOUR
MISC	MISCELLANEOUS
(N)	NEW
NS	NON-SHRINK
N/S	NEAR SIDE
NTS	NOT TO SCALE
NO., NOS	NUMBER, NUMBERS
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OG	ORIGINAL GROUND
OE	OUTER EDGE
OH	OVERHEAD, OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
O-O	OUT TO OUT
PVMT	PAVEMENT
PL	PLATE
PREFAB	PREFABRICATED
PSI	POUNDS PER SQUARE INCH
P/S	PRESTRESSED
R	RADIUS
REINF	REINFORCEMENT
RC	REINFORCED CONCRETE
RCB	REINFORCED CONCRETE BOX
RCE	REGISTERED CIVIL ENGINEER
RET	RETAINING
RT	RIGHT
REQD	REQUIRED
SEC	SECTION
SF	SQUARE FOOT
SIM	SIMILAR
SPEC	SPECIFICATIONS
SHT	SHEET
STR	STRUCTURE/STRUCTURAL
SG	SUBGRADE
STD	STANDARD
SOG	SLAB ON GRADE
SP	STRUCTURAL PLYWOOD
SS	STAINLESS STEEL
SSB	STAINLESS STEEL BOLT
ST	STEEL
STIFF	STIFFENER
STAG	STAGGERED
STIR	STIRRUPS
SQ	SQUARE
SYMM	SYMMETRICAL
T & B	TOP AND BOTTOM
TF	TOP OF FOOTING
TOB	TOP OF BLOCK
TOC	TOP OF CONCRETE
TOG	TOP OF GRATING
TOS	TOP OF STEEL
TS	TUBE STEEL
TOW	TOP OF WALL
TYP	TYPICAL
TEMP	TEMPORARY
UG	UNDER GROUND
UNO (UON)	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VOL	VOLUME
W	WIDTH
WS	WATERSTOP
WP	WORKING POINT
WH	WEEP HOLE
WM	WIRE MESH
WSP	WELDED STEEL PIPE
WWF	WELDED WIRE FABRIC
W/	WITH
W/O	WITHOUT

INSPECTION / OBSERVATION NOTES:

A. SPECIAL INSPECTIONS:

GENERAL: IN ADDITION TO THE INSPECTIONS REQUIRED BY 110 OF THE CURRENT CBC, THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR DURING CONSTRUCTION ON THE FOLLOWING TYPES OF WORK. ALL INSPECTIONS SHALL BE PREFORMED IN ACCORDANCE WITH CHAPTER 17 OF THE CURRENT CBC. REFER TO CHAPTER 17 FOR ADDITIONAL REQUIREMENTS OF THE SPECIAL INSPECTOR.

- ☑ 1. CONCRETE: DURING THE TAKING OF TEST SPECIMENS AND PLACING OF ALL REINFORCED CONCRETE.
- ☑ 2. REINFORCING STEEL:
  a. DURING THE PLACING OF REINFORCING STEEL, FOR ALL STRUCTURAL CONCRETE
  b. DURING THE PLACEMENT OF ALL CONCRETE INSERTS.
- ☑ 3. WELDING: DURING ALL STRUCTURAL WELDING INCLUDING WELDING OF REINFORCING STEEL. SUBMIT FIELD WELDERS CERTIFICATE TO THE DSA APPROVED WELDING INSPECTOR FOR APPROVAL PRIOR TO THE START OF WELDING.
- ☐ 4. HIGH STRENGTH BOLTING: IN ACCORDANCE WITH CBC REQUIREMENTS.
- ☐ 5. STRUCTURAL MASONRY: IN ACCORDANCE WITH CBC REQUIREMENTS.
- ☐ 6. PILING, DRILLED PIERS AND CAISSIONS: DURING DRIVING AND TESTING OF PILES AND CONSTRUCTION OF CAST-IN-PLACE DRILLED PILES AND CAISSIONS.
- ☐ 7. SHOTCRETE: DURING THE TAKING OF TEST SPECIMENS AND PLACING OF SHOTCRETE PER CBC REQUIREMENTS.
- ☐ 8. GLULAM FABRICATION INSPECTION PER 2337A.1.
- ☑ 9. A REPRESENTATIVE OF THE CIVIL ENGINEER OF RECORD SHALL BE PRESENT DURING THE GRADING, EXCAVATION AND FOUNDATION CONSTRUCTION.
- ☑ 10. ADHESIVE ANCHOR INSTALLATION: PERFORM SPECIAL INSPECTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE CBC. THE SPECIAL INSPECTOR MUST RECORD PRODUCT DESCRIPTION (INCLUDING PRODUCT NAME), ADHESIVE EXPIRATION DATE, CONCRETE TYPE AND STRENGTH, ANCHOR DIAMETER AND STEEL GRADE, COMPLIANCE OF DRILL BIT WITH THE ICC-ES REPORT, HOLE DIAMETER AND LOCATION, CLEANLINESS OF HOLE AND ANCHOR, ADHESIVE APPLICATION, AND ANCHOR EMBEDMENT.

B. STRUCTURAL OBSERVATIONS:

THE STRUCTURAL ENGINEER SHALL MAKE VISITS TO THE SITE TO OBSERVE GENERAL COMPLIANCE WITH THE APPROVED STRUCTURAL PLANS, SPECIFICATIONS AND CHANGE ORDERS. THE ENGINEER SHALL SUBMIT A STATEMENT IN WRITING TO THE BUILDING OFFICIAL STATING THE SITE VISITS HAVE BEEN MADE AND THAT ANY DEFICIENCIES NOTED HAVE BEEN CORRECTED.

- ☑ 1. OBSERVE FOUNDATION EXCAVATIONS AND REINFORCEMENT PLACEMENT PRIOR TO THE PLACING OF CONCRETE. PROVIDE 48 HR. NOTICE.
- ☐ 2. OBSERVE EDGE NAILING ON PLYWOOD SHEAR WALLS AND ROOFS.
- ☐ 3. OBSERVE THE CONNECTION OF SEISMIC TIES, STRAPS AND CONNECTORS.
- ☑ 4. PERFORM ADDITIONAL OBSERVATIONS, IF REQUIRED IN THE OPINION OF THE STRUCTURAL ENGINEER.

GENERAL NOTES:

1. TYPICAL STRUCTURAL DETAILS AND NOTES SHALL APPLY TO ALL "S" SHEETS UNLESS OTHERWISE SHOWN OR NOTED ON PLANS.
2. DETAILS OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF THE SAME NATURE AS SHOWN FOR SIMILAR CONDITION.
3. CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND REGULATIONS.
4. PRIOR TO FABRICATION, SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BY THE ENGINEER ON ALL STRUCTURAL STEEL, METAL DECK, STRUCTURAL ALUMINUM, REINFORCING STEEL, CONST. JT. LAYOUT AND CONCRETE MIX DESIGN. SHOP DRAWINGS: CONTRACTOR AGREES THAT SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS AND THAT THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT BY INDICATING WHICH MATERIAL HE INTENDS TO FURNISH AND INSTALL AND BY DETAILING THE FABRICATION AND INSTALLATION METHODS HE INTENDS TO USE.
5. SAFETY NOTE: IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PERTINENT SECTIONS OF THE A) "CONSTRUCTION SAFETY ORDERS" ISSUED BY THE STATE OF CALIFORNIA, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT. THE ENGINEER AND THE OWNER DO NOT ACCEPT ANY RESPONSIBILITY FOR THE CONTRACTOR'S B) FAILURE TO COMPLY WITH THESE REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE DESIGN AND CONSTRUCTION OF ALL C) FORMS AND SHORING REQUIRED.
6. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
7. CONTRACTOR SHALL NOTIFY THE ENGINEER WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DRAWINGS OR DOCUMENTS. CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF STRUCTURES THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED WITH THE AFFECTED PARTIES.
8. MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTRUAL DRAWINGS, BUT REQUIRED BY OTHER CONTRACT DRAWINGS SHALL BE PROVIDED. OPENINGS THROUGH NEW AND EXISTING WALLS AND SLABS FOR PIPES, DUCTS CONDUITS, ETC. ARE NOT ALL SHOWN ON THE STRUCTURAL DRAWINGS. CONTRACTOR SHALL PROVIDE THESE OPENINGS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. REINFORCEMENT AROUND OPENINGS IN NEW WALLS AND SLABS SHALL BE AS SHOWN IN THE TYPICAL DETAILS UNLESS OTHERWISE SHOWN.
9. CONTRACTOR SHALL VERIFY MECHANICAL AND ELECTRICAL PLANS FOR THE LOCATION OF EQUIPMENT.

CONSTRUCTION LOADS:

STRUCTURES HAVE BEEN DESIGNED FOR OWNER'S OPERATIONAL LOADS ON THE FINISHED STRUCTURES. DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING AND BRACING THE STRUCTURES AND BALANCING WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR. BACKFILL SHALL BE PLACED AROUND STRUCTURES SYMMETRICALLY AND UNIFORMLY SO THAT LOADS AGAINST STRUCTURES ARE INTRODUCED IN BALANCE. LIQUID-CONTAINING STRUCTURES SHALL BE TESTED FOR WATER-TIGHTNESS BEFORE BACKFILLING – SEE SPECS.

CONCRETE AND REINFORCING STEEL:

1. CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318-14 AND ACI CODE OF STANDARD PRACTICE.
2. SEE SPECIFICATIONS FOR REQUIREMENTS.
3. CEMENT SHALL CONFORM TO ASTM C-150, TYPE II, MODIFIED/TYPE V.
4. CONCRETE AGGREGATES: NATURAL SAND AND ROCK AGGREGATES CONFORMING TO ASTM C-33.
5. REINFORCING SHALL CONFORM TO ASTM A706 GRADE 60 OR 70, EXCEPT #3 & #4 STIRRUPS AND TIES MAY BE GRADE40.
6. WELDING OF REINFORCING STEEL SHALL CONFORM TO AWS D1.4 USING PROPER LOW HYDROGEN ELECTRODES. TACK WELDING TO REBAR IS STRICTLY PROHIBITED. SEE "REBAR WELDING".
7. REINFORCING STEEL SHALL BE DETAILED, FABRICATED, AND INSTALLED ACCORDING TO "MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION" BY CRSI.
8. WIRE FABRIC SHALL CONFORM TO ASTM A-185.
9. DIMENSIONS SHOWN FOR LOCATION OF REINFORCING ARE TO THE FACE OF MAIN BARS AND DENOTE CLEAR COVERAGE. UNLESS OTHERWISE NOTED, CLEAR COVERAGE SHALL BE AS FOLLOWS:
   - CONCRETE DEPOSITED DIRECTLY AGAINST GROUND (EXCEPT SLABS) . . . . . 3"
   - FORMED CONCRETE EXPOSED TO WEATHER OR GROUND OR LIQUID
   - #6 AND LARGER . . . . . .2"
   - #5 AND SMALLER . . . . . 2"
   - BEAMS (TOP BARS) . . . . . $1\frac{1}{2}$"
   - BEAMS (ALL OTHER MAIN REINFORCING) . . . . . 2"
   - COLUMN MAIN REINFORCING . . . . . .2"
   - SLABS ON GROUND WITH ONE LAYER OF REINFORCEMENT . . . . . POSITION IN CENTER OF SLAB
10. A) UNLESS OTHERWISE NOTED ALL BARS SHOWN WITH LAPS OR SPLICES SHALL HAVE CLASS 'B' LAP LENGTH. SEE TABLE BELOW .

CLASS 'B' LAP LENGTH

BAR SIZE	OTHER	TOP *
#3	1'-7"	2'-0"
#4	2'-1"	2'-8"
#5	2'-7"	3'-4"
#6	3'-1"	4'-0"
#7	4'-6"	5'-11"
#8	5'-2"	6'-9"
#9	5'-10"	7'-7"
#10	6'-7"	8'-6"
#11	7'-3"	9'-6"

* TOP REINFORCING IS HORIZONTAL REINFORCEMENT THAT HAS MORE THAN 12" OF CONCRETE PLACED BELOW IT.

B) DOWEL ALL VERTICAL REBARS IN WALLS AND COLUMNS FROM FOUNDATION WITH SAME SIZE AND SPACING AS WALL VERTICAL BAR U.N.O.
C) SPLICES IN ADJACENT HORIZ. BARS SHALL BE STAGGERED NOT LESS THAN 5'-0" APART.
D) SPLICE CONTINUOUS BARS IN SOIL-BEARING GRADE BEAMS AS FOLLOWS: BOTTOM BARS AT MID-SPAN, TOP BARS AT CENTERLINE OF SUPPORT, UNLESS NOTED OTHERWISE.
E) SPLICE CONTINUOUS BARS IN BEAMS, SPANDRELS, WALL BEAMS ETC. AS FOLLOWS: BOTTOM BARS AT CENTERLINE OF SUPPORT, TOP BARS AT MIDSPAN, UNLESS NOTED OTHERWISE.
F) REINFORCING BARS SHALL BE RUN IN A MANNER THAT FORMS A CONTINUOUS SYSTEM OF BARS TYING ALL PARTS OF THE STRUCTURE TOGETHER. EXTEND ALL REINFORCING BARS AS FAR AS POSSIBLE IN EACH CONCRETE MEMBER AND TERMINATE BAR W/ 90° STD. HOOK TO 2" OF CONCRETE COVER OVER END OF HOOK. FACE OR BEND.
G) BEAM STIRRUPS AND COLUMN TIES SHALL HOOK 135 DEGREES AROUND A CORNER BAR UNLESS NOTED OTHERWISE.

11. GENERAL:
    A) NO PIPES OR DUCTS SHALL BE PLACED IN CONCRETE SLABS, BEAMS, WALLS OR GRADE BEAMS UNLESS SPECIFICALLY DETAILED.
    B) REFER TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS FOR ALL OPENINGS, FLANGES, MOULDS, GROOVES, CLIPS AND GROUNDS TO BE CAST IN CONCRETE.
12. CONSTRUCTION JOINTS SHALL BE MADE ROUGH AND ALL LAITANCE REMOVED FROM THE SURFACE. CONCRETE MAY BE ROUGHENED BY CHIPPING THE ENTIRE SURFACE, SANDBLASTING, OR HOSING THE SURFACE 4 TO 6 HOURS AFTER THE POUR WITH A FINE SPRAY.
13. REMOVE ALL DEBRIS FROM THE FORMS BEFORE PLACING ANY CONCRETE.
14. REINFORCING, DOWELS, BOLTS, ANCHORS, SLEEVES, ETC. TO BE EMBEDDED IN CONCRETE SHALL BE SECURELY POSITIONED BEFORE PLACING CONCRETE. OBTAIN APPROVAL OF ALL AFFECTED TRADES PRIOR TO PLACING CONCRETE.
15. MAXIMUM FREE FALL OF CONCRETE SHALL BE 4'-0".
16. CONCRETE FOR WALLS SHALL BE PLACED SO THAT NO PART OF THE LIFT IS MORE THAN 2 FT. HIGHER THAN ANY OTHER PART.
17. CONCRETE IN WALLS, PIERS, OR COLUMNS SHALL SET AT LEAST 2 HOURS BEFORE PLACING CONCRETE IN BEAMS, SPANDRELS, OR SLABS SUPPORTED THEREON.
18. REINFORCE ALL SLABS ON GRADE AS SHOWN ON DRAWINGS.
19. USE #2 SPREADERS APPROXIMATELY EVERY THIRD INTERSECTION EACH DIRECTION FOR ALL DOUBLE LAYER WALLS. PLACE SPREADERS IN VERTICAL LINES WITH FORM TIES.
20. NO WOOD SPREADERS ARE ALLOWED. NO WOOD STAKES ARE ALLOWED IN AREAS TO BE CONCRETED.
21. CONCRETE MIX DESIGN SHALL BE SUBMITTED FOR ENGINEER'S REVIEW PRIOR TO PLACING CONCRETE.
22. NOTIFY THE ENGINEER 48 HOURS PRIOR TO PLACING CONCRETE.
23. SPACING OF CONST. JOINTS IN WALLS AND SLABS IS 30 FT. MAXIMUM EA. WAY; LENGTH OF WALL POUR FROM CORNER IS 20 FT. MAXIMUM; MAXIMUM AREA OF ONE POUR IS 900 SF. U.N.O. SUBMIT SHOP DRAWINGS FOR APPROVAL.
24. EXCEPT AS OTHERWISE REQUIRED, EXPOSED CONCRETE CORNERS AND EDGES SHALL HAVE 3/4" CHAMFERS. RE ENTRANT CORNERS SHALL NOT HAVE FILLETS.
25. POST INSTALLED ANCHORS AS APPROVED BY ICC-ES FOR THE USE IN CRACKED CONCRETE SHALL BE USED. THE DESIGN SHALL BE IN ACCORDANCE WITH CHAPTER-17 OF ACI 318-14. PROVIDE ICC-ES REPORT FOR ENGINEERS APPROVAL.
26. IF EXPANSION JOINTS ARE GOING TO BE USED, THEY WILL BE SHOWN ON CONSTRUCTION DRAWINGS.

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CITY OF NEWMAN — AGRICULTURE — 1888

Client/Project

CITY OF NEWMAN

WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

File Name: X05593-S01-S02 | RG Dwn. | KCC Dsgn. | KCC Chkd. | 2019.08.02 YYYY.MM.DD

Title

TYPICAL STRUCTURAL NOTES 1

Project No. 2002005593 | Scale

Revision | Sheet 23 of 41 | Drawing No. S01

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ORIGINAL SHEET - ANSI D

WATER STOPS FOR CONCRETE CONSTRUCTION:

1. ALL WATER STOPS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS TO GIVE A WATERTIGHT JOINT.
2. WATER STOPS SHALL BE CAREFULLY POSITIONED IN PLACE AND SUPPORTED AS REQUIRED TO REMAIN IN PLACE DURING OPERATIONS.
3. WATERSTOPS MUST BE USED AT ALL CONSTRUCTION JOINTS IN LIQUID CONTAINING STRUCTURES.

REBAR WELDING:

ALL REBAR TO BE WELDED SHALL BE CONTINUOUSLY INSPECTED BY A QUALIFIED LABORATORY APPROVED BY THE BUILDING OFFICIAL OF LOCAL JURISDICTION. CONTRACTOR MUST FURNISH TO THE LABORATORY MILL CERTIFICATES SHOWING CHEMICAL ANALYSIS. ALL PREHEATING AND WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.4 STANDARDS (LATEST EDITION).

FOUNDATIONS:

1. THE FOOTINGS SHALL BEAR ON FIRM, DRY NATIVE MATERIAL OR ENGINEERED FILL WITH A MINIMUM PENETRATION OF 12 INCHES.
2. EXCAVATIONS SHALL BE CLEANED OF ALL DEBRIS. STANDING WATER SHALL BE REMOVED.
3. ALL FOOTINGS SHALL BE FORMED. FOUNDATIONS MAY BE PLACED IN NEAT EXCAVATIONS PROVIDED WRITTEN PERMISSION IS OBTAINED FROM THE ENGINEER AND FOOTINGS ARE INCREASED 2" IN WIDTH. SEE TYPICAL DETAIL.
4. NOTIFY THE ENGINEER 48 HOURS BEFORE PLACING FOUNDATIONS.

EXPANSION ANCHOR AND ADHESIVE ANCHOR NOTES:

1. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS GIVEN IN THE ICC-ES REPORT.
2. SPECIAL INSPECTION IS REQUIRED FOR ICBO ALLOWABLE TENSION VALUES LISTED IN THE INSPECTION NOTES. UNLESS NOTED OTHERWISE ANCHORS HAVE BEEN DESIGNED FOR SPECIAL INSPECTION.
3. DESIGN LOADS ON ANCHORS ARE NOT TO EXCEED 80% OF THE TENSION AND SHEAR VALUES AS RECOMMENDED BY THE MANUFACTURER.
4. TENSION TEST LOAD VALUES ARE BASED ON 80% OF TWICE THE TENSION VALUES LISTED.
5. ALLOWABLE LOADS MAY NOT BE INCREASED FOR DURATION OF LOADS SUCH AS WIND OR SEISMIC FORCES.
6. WHEN INSTALLING DRILLED IN ANCHORS IN EXISTING CONCRETE OR MASONRY, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING EXISTING REINFORCING BARS.
7. THE TESTING OF THE ANCHORS SHALL BE DONE BY THE TESTING LABORATORY AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE GOVERNING AGENCY AND ARCHITECT/STRUCTURAL ENGINEER. TESTING SHALL OCCUR 24 HOURS MINIMUM AFTER THE INSTALLATION OF THE ANCHORS.
8. ANCHORS INSTALLED IN METAL DECK WITH CONCRETE SHALL BE INSTALLED IN THE CENTER OF THE LOW FLUTE OF THE DECKING. THE DECKING SHALL HAVE A MINIMUM THICKNESS OF 20 GAUGE. THE MINIMUM DEPTH OF EMBEDMENT ABOVE THE TOP OF THE DECK SHALL BE 1-1/2". THE EFFECTIVE DEPTH OF EMBEDMENT IS CONSIDERED TO BE 1/3 OF THE METAL DECK HEIGHT PLUS THE DEPTH OF EMBEDMENT ABOVE THE TOP OF THE DECK.
9. ANCHORS SHALL NOT BE INSTALLED IN CONCRETE LESS THAN 21 DAYS OLD.

CODE:

1. 2016 CALIFORNIA BUILDING CODE (CBC).
2. CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES (ACI 350-06) AND COMMENTARY (ACI 350R-06).
3. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14).
4. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE 7-10).

SEISMIC DESIGN REQUIREMENTS:

SINCE SOIL PARAMETERS ARE NOT KNOWN IN SUFFICIENT DETAIL TO DETERMINE THE SITE CLASS, THE SITE CLASS WAS ASSUMED TO BE "D" PER CODE RECOMMENDATIONS, AND THE FOLLOWING SEISMIC PARAMETERS WERE OBTAINED USING "SEAOC WEB TOOL"

SEISMIC COEFFICIENTS	Ss = 1.329g	Sms = 1.329g
	S1 = 0.445g	Sm1 = 0.629g
	Fa = 1.0	SDS = 0.886g
	Fv = 1.555	SD1 = 0.462g
SITE CLASS	D	
RISK CATEGORY	III	
SEISMIC DESIGN CATEGORY	D	
IMPORTANCE FACTOR	I =1.25	
NON-BUILDING STRUCTURE		PER ASCE 7-10
RESPONSE MODIFICATION FACTOR	R =	CHAPTER 15 SECTION
IMPORTANCE FACTOR	I =	15.4.1.1 & TABLES 15.4-1 & 15.4-2

SEE SPECIFICATION SECTION - 01610 FOR OTHER REQUIREMENTS.

WIND DESIGN REQUIREMENTS:

BASIC WIND SPEED, V_{ULT}	115 MPH
EXPOSURE CATEGORY	C
RISK CATEGORY	III

SEE SPECIFICATION SECTION - 01615 FOR OTHER REQUIREMENTS.

GEOTECHNICAL REPORT:

GEOTECHNICAL REPORT SPECIFIC TO THIS PROJECT WAS NOT MADE AVAILABLE AT THE TIME OF DESIGN STAGE. FOLLOWING SOIL PARAMETER IS USED ON PRESUMPTIVE BASIS.

- ALLOWABLE SOIL BEARING CAPACITY 1,500 PSF.

FLOOR LIVE LOAD:

SLAB ON GRADE= 250 PSF

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CITY OF NEWMAN

WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

File Name: X05593-S01-S02	RG	KCC	KCC	2019.08.02
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

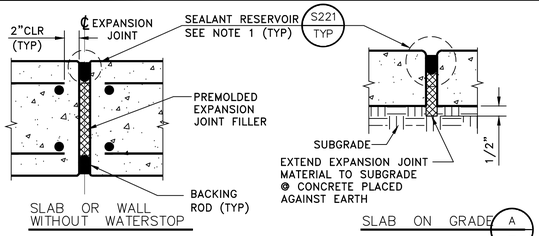
TYPICAL STRUCTURAL NOTES 2

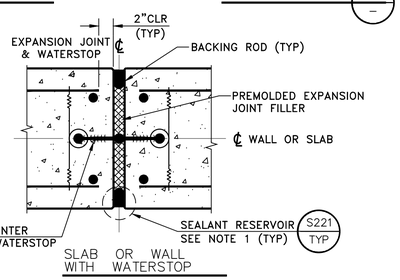
Project No.	Scale
2002005593	
Revision	Sheet
	24 of 41

Drawing No. S02

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ORIGINAL SHEET - ANSI D



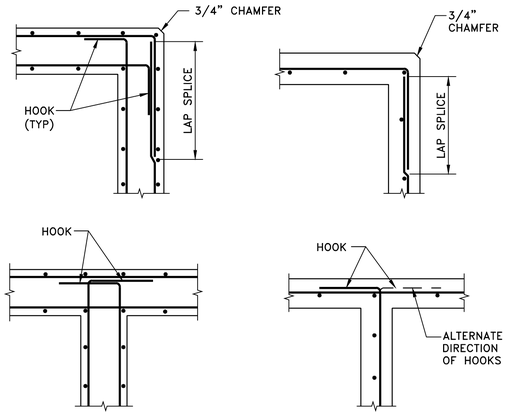


NOTES:

1. USE A — AT UNDERSIDE OF SLABS ON GRADE ONLY.
2. SEE DRAWINGS FOR LOCATION OF REINFORCEMENT.
3. WATERSTOP SHALL BE THOROUGHLY CLEANED PRIOR TO PLACING CONCRETE.
4. SINGLE LAYER REINFORCED SLABS OR WALLS SIMILAR.

EXPANSION JOINT

SCALE: NONE — S200 TYP



NOTES:

1. ALL HOOKS SHALL BE ACI STD 90 DEGREE HOOKS WITH 12" MINIMUM RETURN.
2. FOR VERTICAL AND HORIZONTAL BARS SEE STRUCTURAL PLANS.

REINFORCEMENT AT CORNERS AND INTERSECTIONS

SCALE: NONE — S213 TYP

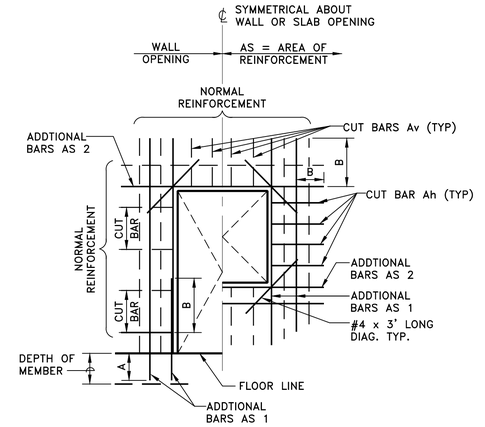
BAR SIZE	GRADE 60	
	A	B
#3	17"	22"
#4	22"	29"
#5	28"	36"
#6	33"	43"
#7	48"	63"
#8	55"	72"
#9	62"	81"
#10	70"	91"

NOTES FOR DETAILS: S216, S217

1. THIS DETAIL TO BE USED EXCEPT WHEN NOTED OTHERWISE ON STRUCTURAL DRAWINGS.
2. NORMAL REINFORCEMENT CUT AT OPENING:
   AS_1 = 1/2 TOTAL Av CUT BARS
   AS_2 = 1/2 TOTAL Ah CUT BARS TO BE ADDED ON EACH SIDE OF OPENING.
3. DIAGONAL BARS TO BE PLACED:
   a) AT ℄ OF WALL OR SLAB WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED.
   b) AT EACH FACE OF WALLS OR SLABS WHERE TWO LAYERS OF REINFORCEMENT ARE PROVIDED.
4. PROVIDE DIAGONAL DOWEL FOR EACH LAYER OF REINFORCEMENT (#4 x 3'-0") U.N.O.
5. LOCATE ADDITIONAL BARS AT MID SPACING BETWEEN CONTINUOUS BARS THAT ARE NOT CUT.

NOTES FOR ADDITIONAL REINFORCEMENT AT OPENINGS

SCALE: NONE — S215 TYP

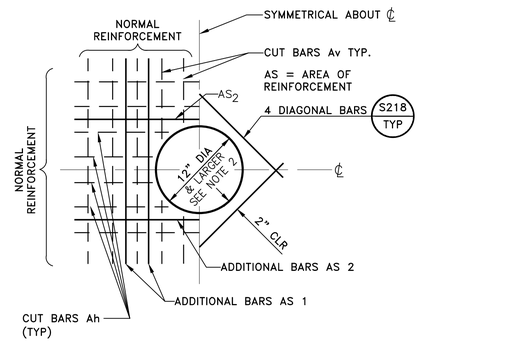


NOTES:

1. IF "A" IS GREATER THAN DEPTH OF MEMBER PROVIDE HOOKED BAR A
2. FOR ADDITIONAL REINFORCEMENT SIZES & LENGTHS SEE S215 TYP

ADDITIONAL REINFORCEMENT AT RECTANGULAR OPENINGS

SCALE: NONE — S216 TYP



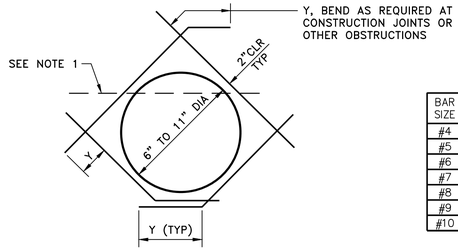
ELEVATION

NOTES:

1. FOR ADDITIONAL REINFORCEMENT SIZES & LENGTHS SEE S215 TYP
2. FOR CIRCULAR OPENINGS LESS THAN 12"ø, SEE S218 TYP

ADDITIONAL REINFORCEMENT AT CIRCULAR OPENINGS

SCALE: NONE — S217 TYP



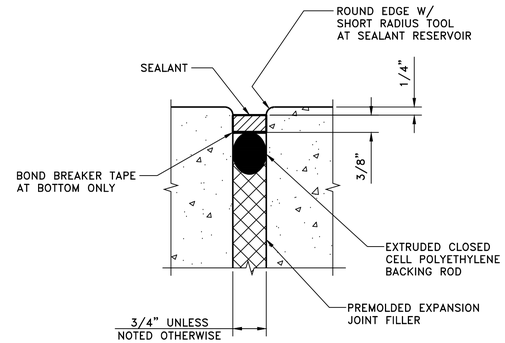
BAR SIZE	"Y" GRADE 60
#4	22"
#5	28"
#6	33"
#7	48"
#8	55"
#9	62"
#10	70"

NOTES:

1. CUT TYPICAL REINFORCEMENT AT OPENING.
2. DIAGONAL BARS TO BE PLACED: a) AT CENTERLINE OF WALL OR SLAB WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED. b) AT EACH FACE OF WALLS OR SLABS WHERE TWO LAYERS OF REINFORCEMENT ARE PROVIDED.
3. UNLESS OTHERWISE NOTED, SIZE OF DIAGONAL BARS SHALL BE THE SIZE OF THE LARGEST REINFORCEMENT CUT.
4. USE THIS DETAIL FOR ALL CIRCULAR OPENINGS 6" THROUGH 11" UNLESS OTHERWISE NOTED ON THE STRUCTAL DRAWINGS.

DIAGONAL REINFORCEMENT AT CIRCULAR OPENINGS

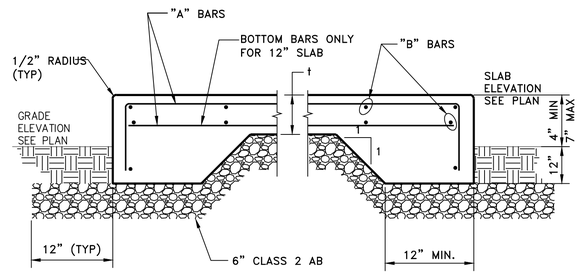
SCALE: NONE — S218 TYP



SEALANT RESERVOIR AT EXPANSION JOINT

SCALE: NONE — S221 TYP

THICKNESS t	BARS "A" SIZE/SPACING	BARS "B" SIZE/SPACING
4"	#4 @ 18" CC	#4 @ 18" CC
6"	#5 @ 18" CC	#5 @ 18" CC
8"	#5 @ 12" CC	#5 @ 12" CC
12"	#5 @ 12" CC T&B	#5 @ 12" CC T&B



NOTES:

1. FOR SLAB THICKNESS UP TO 8", REINFORCEMENT SHALL BE PLACED AT SLAB CENTER.

CONCRETE SLAB ON GRADE

SCALE: NONE — S245 TYP

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WWTRF MCPIKE 1
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NEWMAN, CALIFORNIA

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Title

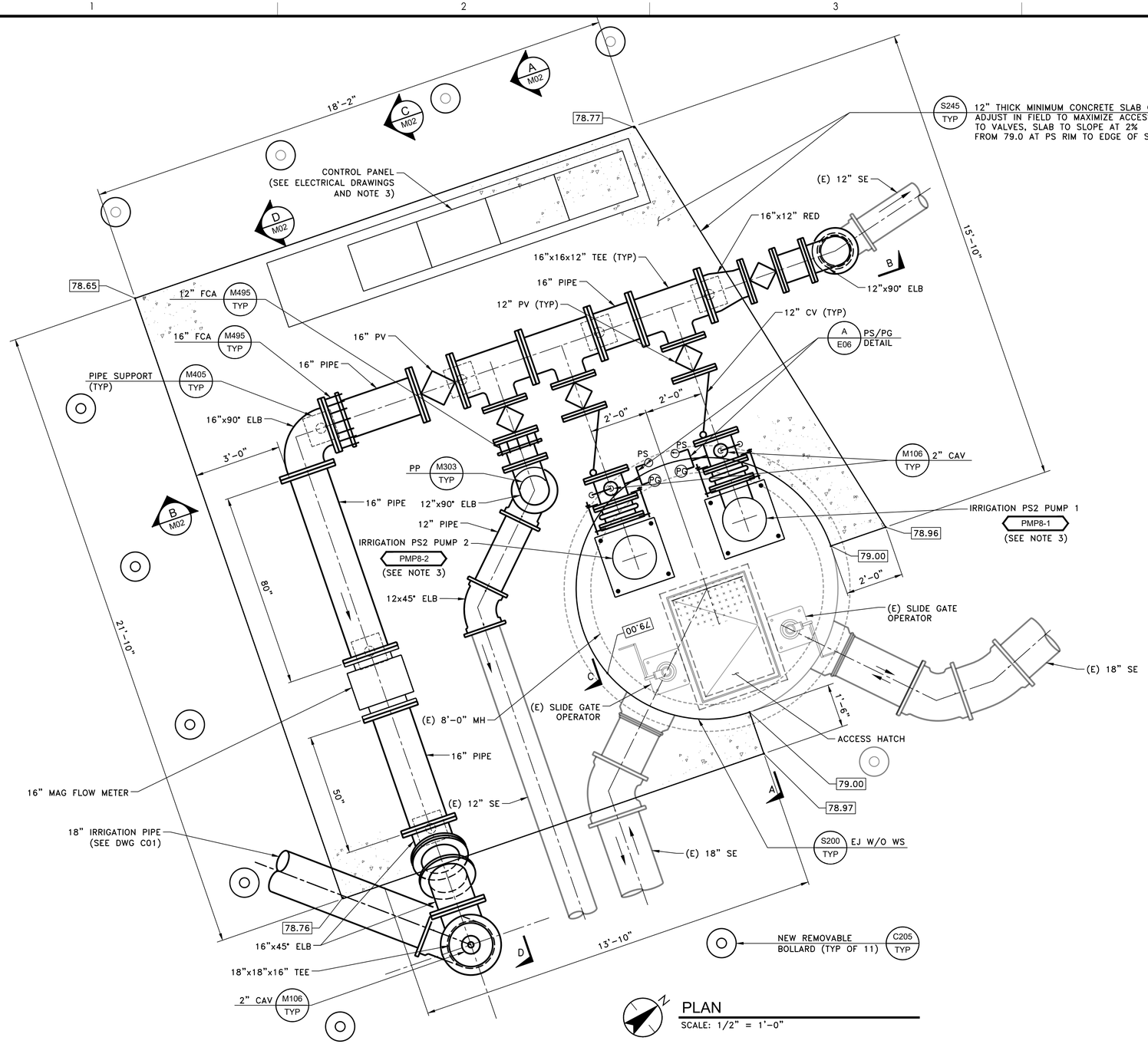
TYPICAL STRUCTURAL DETAILS

Project No. 2002005593 — Scale

Revision — Sheet 25 of 41 — Drawing No. S03

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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1/2" = 1'-0"

NOTES:

1. FOR ALL OPENING AND PIPE PENETRATION IN SLAB, PROVIDE ADDITIONAL REINFORCEMENT PER DDTAILS S216 TYP, S217 TYP, S218 TYP
2. SUPPORT SYSTEMS SHOWN ON DETAILS AND / OR DRAWINGS ARE MINIMUMS, AND FOR GENERAL GUIDANCE AND LAYOUT. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO PROVIDE DETAILS AND CALCULATIONS, STAMPED BY A REGISTERED CALIFORNIA STRUCTURAL OR CIVIL ENGINEER FOR SUPPORT SYSTEMS INCLUDING ANCHORAGE. SEE SPECIFICATIONS SECTION 01610 AND 01615 FOR MORE INFORMATION.
3. EQUIPMENT MANUFACTURER SHALL PROVIDE DRAWINGS AND CALCULATIONS FOR ANCHORAGE DESIGN, STAMPED AND SIGNED BY A CALIFORNIA REGISTERED CIVIL OR STRUCTURAL ENGINEER FOR REVIEW.

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NEWMAN, CALIFORNIA

File Name: X05593-M01 — RG Dwn. — PR Dsgn. — GA Chkd. — 2019.08.02 YYYY.MM.DD

Title

IRRIGATION PUMP STATION 2
TOP PLAN

Project No. 2002005593

Scale

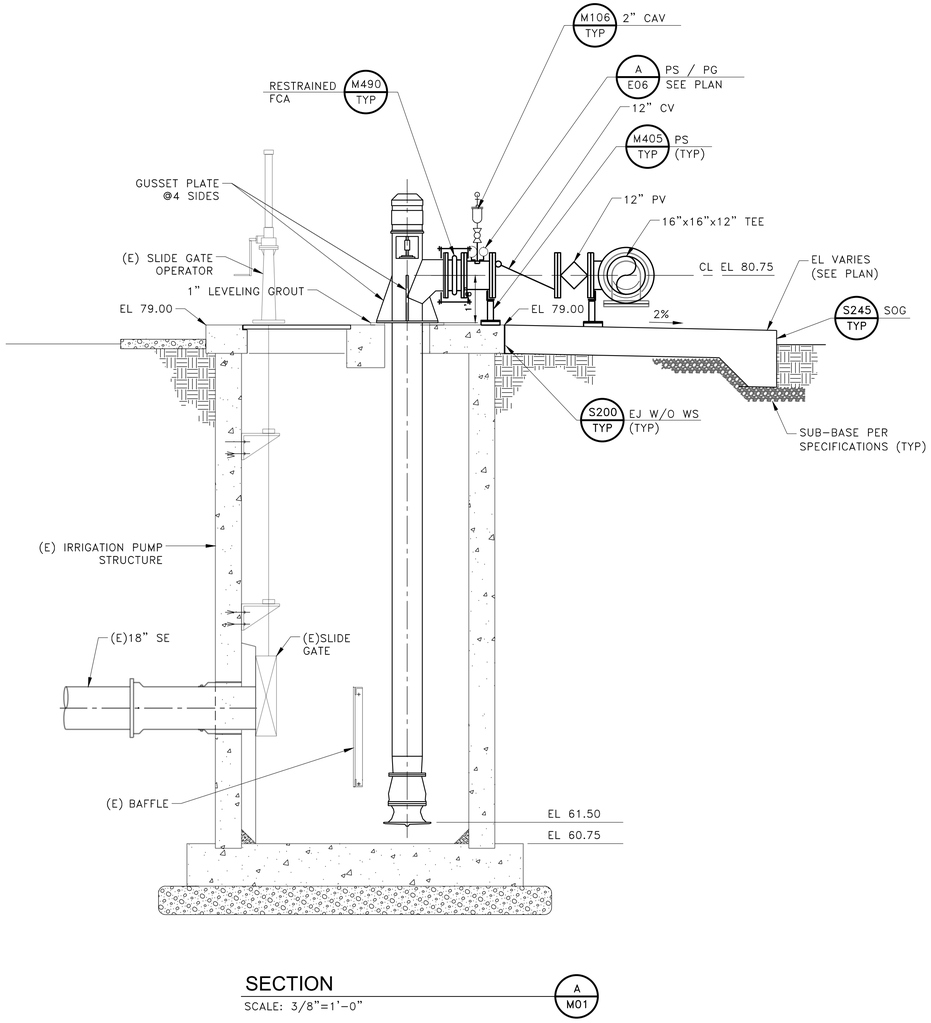
Revision

Sheet 26 of 41

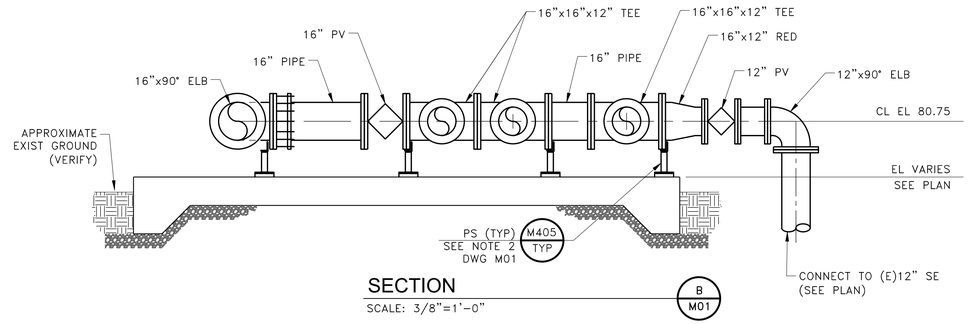
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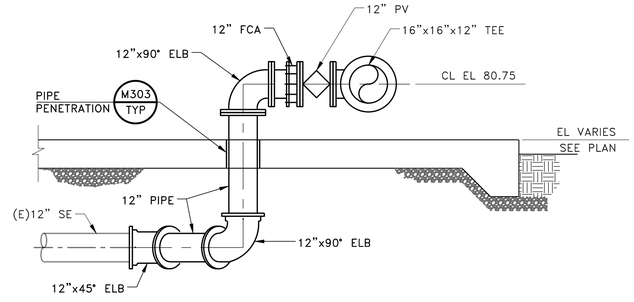
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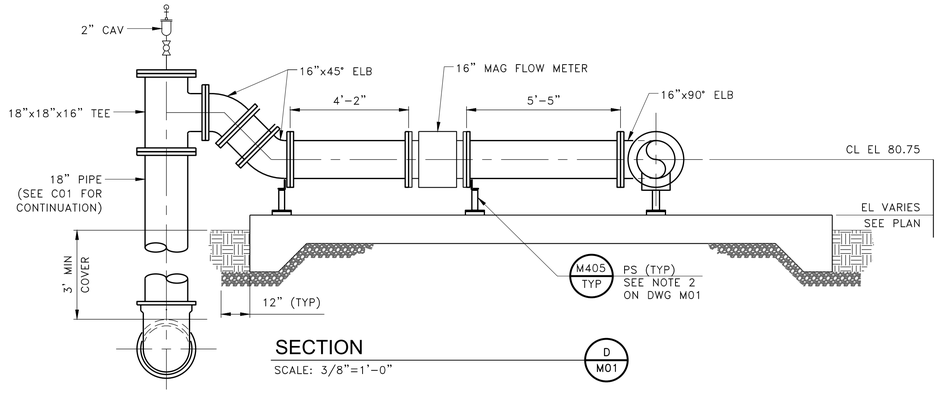
SECTION
SCALE: 3/8"=1'-0"
A M01



SECTION
SCALE: 3/8"=1'-0"
B M01



SECTION
SCALE: 3/8"=1'-0"
C M01



SECTION
SCALE: 3/8"=1'-0"
D M01

NOTE:
ELECTRICAL CONTROL PANEL NOT SHOWN (SEE ELECTRICAL DRAWINGS).

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NEWMAN, CALIFORNIA

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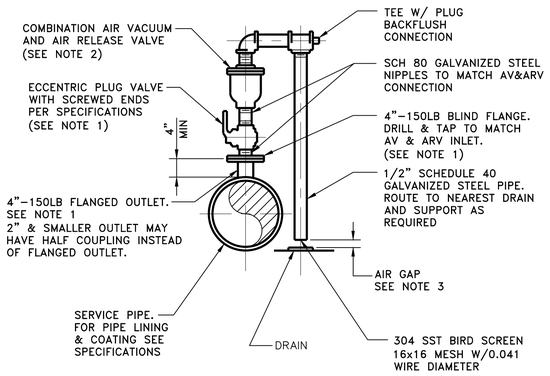
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IRRIGATION PUMP STATION 2
SECTION AND DETAILS

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M02	

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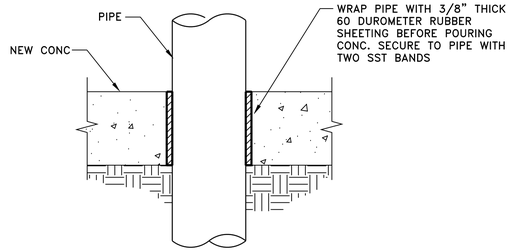


NOTES:

1. FLANGED OUTLET AND ECCENTRIC PLUG VALVE SHOULD BE SUITABLE FOR 150 PSI PRESSURE MINIMUM. INCREASE PRESSURE RATING AS REQUIRED TO MATCH PIPING SYSTEM TEST PRESSURE.
2. VALVE SIZE PER SPECIFICATIONS OR AS INDICATED ON DRAWINGS.
3. WASTEWATER SERVICE REQUIRES AN AIR GAP OF (2) PIPE DIAMETER OR 2 INCHES, WHICHEVER IS LARGER. POTABLE WATER SERVICE REQUIRES 36 INCHES OR PER LOCAL HEALTH DEPARTMENT CODES, WHICHEVER IS LARGER.

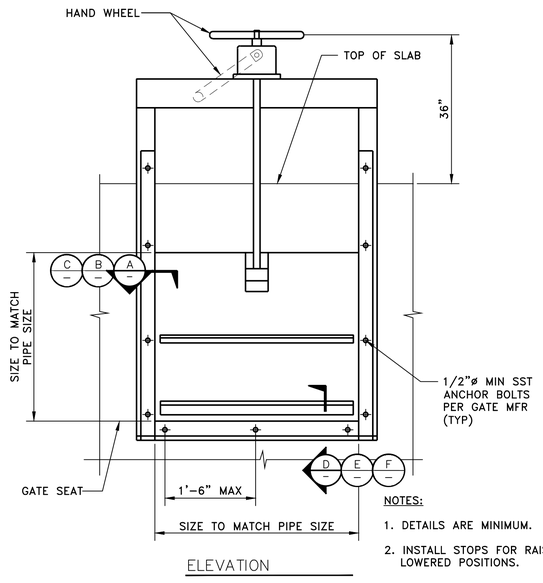
AIR-VACUUM AND AIR-RELEASE VALVE ASSEMBLY 3" AND SMALLER

SCALE: NONE — M106 TYP



SLAB ON GRADE PIPE PENETRATION

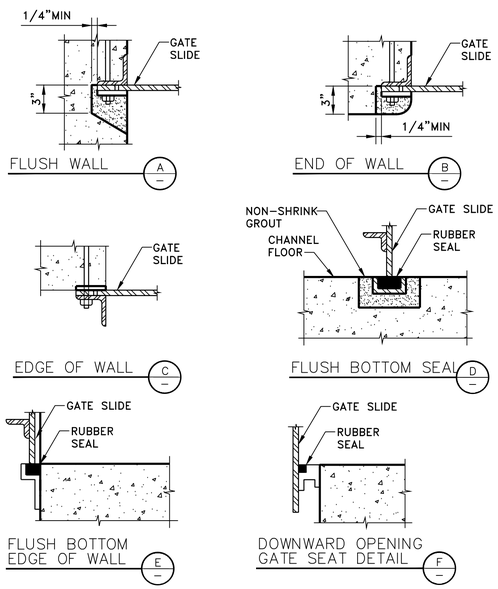
SCALE: NONE — M303 TYP



ELEVATION

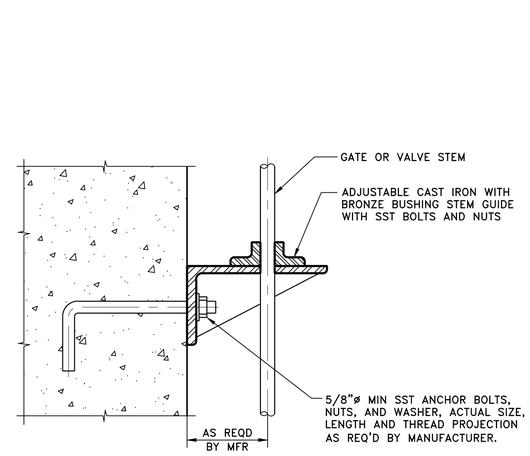
NOTES:

1. DETAILS ARE MINIMUM.
2. INSTALL STOPS FOR RAISED AND LOWERED POSITIONS.



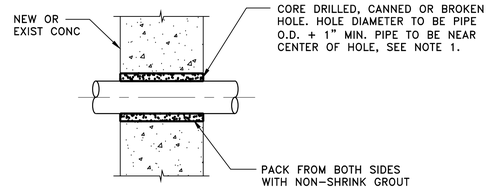
SLIDE GATE / CANAL GATE

SCALE: NONE — M290 TYP



STEM GUIDE

SCALE: NONE — M291 TYP



GROUTED PIPE PENETRATION

SCALE: NONE — M301 TYP

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NEWMAN, CALIFORNIA

File Name: X05593-M03-M05	RG Dwn.	PR Dsgn.	GA Chkd.	2019.08.02 YYYY.MM.DD

Title

TYPICAL MECHANICAL DETAILS 1

Project No. 2002005593

Scale

Revision

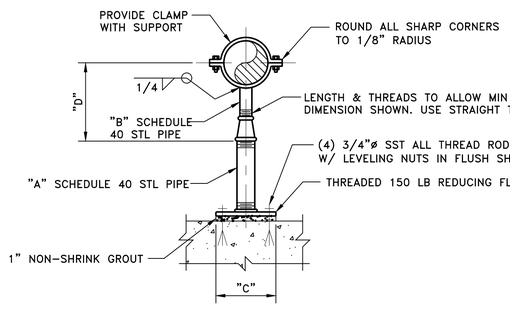
Sheet 28 of 41

Drawing No. M03

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ORIGINAL SHEET - ANSI D

ADJUSTABLE PIPE SADDLE SUPPORT SCHEDULE DIMENSIONS IN INCHES					
SIZE OF SUPPORTED PIPE	PIPE SIZE "A"	PIPE SIZE "B"	"C"	"D" MINIMUM	"D" MAXIMUM
8	3	2 1/2	9	11 1/2	16 1/2
10	3	2 1/2	9	13 1/2	18 1/2
12	3	2 1/2	9	15	19 1/2
14	4	3	11	16 1/2	20 1/2
16	4	3	11	17 1/2	22 1/2
18	4	3 1/2	13 1/2	19 1/2	24
20	4	3 1/2	13 1/2	21	25 1/2
24	6	4	13 1/2	23 1/2	28 1/2
30	6	4	13 1/2	27	31 1/2
32	6	4	13 1/2	28 1/2	32 1/2
36	6	4	13 1/2	30 1/2	34 1/2



NOTES:

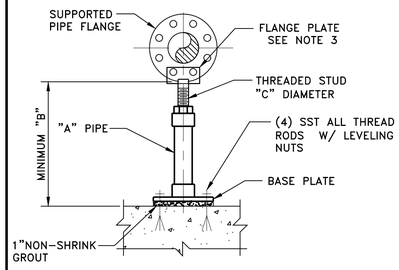
1. HOT-DIP GALVANIZE AFTER FABRICATION.

ADJUSTABLE PIPE SUPPORT (>6")

SCALE: NONE

M402 TYP

ADJUSTABLE PIPE SUPPORT SCHEDULE				
SIZE OF SUPPORTED PIPE	EXTENSION PIPE SIZE "A" SCH 40	BASE PLATE SIZE	MINIMUM DIST. FROM FLANGE TO FLOOR "B"	THREADED STUD "C" DIAMETER
2	2"	4"x 6"x 1/4"	7"	1"
2 1/2	2"	4"x 6"x 1/4"	7"	1"
3	2"	4"x 6"x 1/4"	7"	1"
4	2"	4"x 6"x 1/4"	7"	1"
6	2"	4"x 6"x 1/4"	7"	1"
8	2"	4"x 6"x 1/4"	7"	1"
10	2"	4"x 6"x 1/4"	7"	1"
12	2"	4"x 6"x 1/4"	7"	1"
14	3"	8"x 8"x 1/2"	9 1/2"	1 1/2"
16	3"	8"x 8"x 1/2"	9 1/2"	1 1/2"
18	4"	8"x 8"x 1/2"	10"	2"
20	4"	8"x 8"x 1/2"	10"	2"
24	4"	8"x 8"x 1/2"	10"	2"
30	6"	13 1/2"x 13 1/2"x 1/2"	12"	2"
36	6"	13 1/2"x 13 1/2"x 1/2"	16"	2 1/2"
42	8"	16"x 16"x 1/2"	18"	2 1/2"
48	8"	16"x 16"x 1/2"	18"	2 1/2"



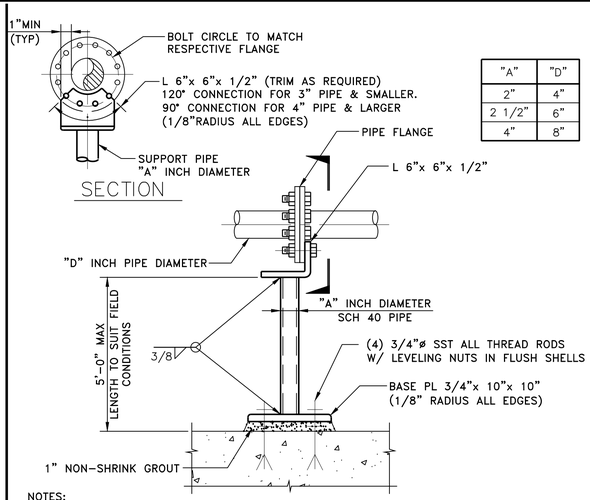
NOTES:

1. MATERIAL OF FABRICATION ASTM A35 & A53 STEEL WITH ELECTRO-GALVANIZED FINISH OR AS SPECIFIED ON THE DRAWING.
2. STANDON MODEL S89 FLANGE SUPPORT OR EQUAL SUPPORT DOES NOT SERVE AS SEISMIC OR THRUST SUPPORT.
3. TWO BOLTS UP TO 10". 45° THEREAFTER

ADJUSTABLE PIPE SUPPORT AT FLANGE (2" TO 48")

SCALE: NONE

M404 TYP



"A"	"D"
2"	4"
2 1/2"	6"
4"	8"

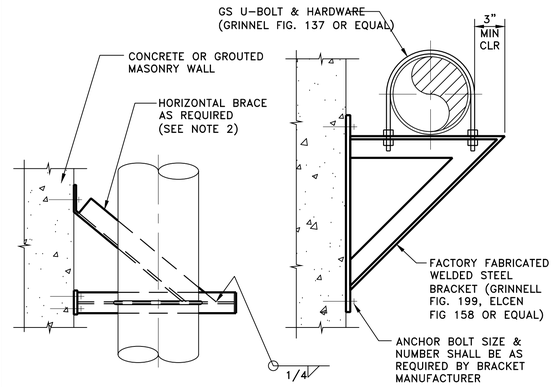
NOTES:

1. MAXIMUM VERTICAL LOAD = 1000 POUNDS.
2. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, MATERIAL FOR ANCHOR BOLTS, PIPE, AND L 6" x 6" x 1/2" SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, MATERIAL FOR ANCHOR BOLTS, PIPE, AND L 6" x 6" x 1/2" SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
3. FIELD PAINT GALVANIZED STEEL PER THE SPECIFICATIONS.

FLANGED PIPE SUPPORT

SCALE: NONE

M405 TYP



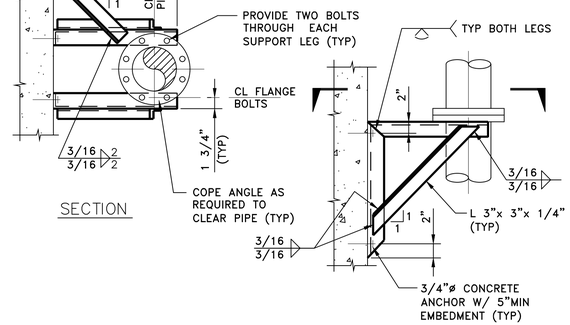
NOTES:

1. MAXIMUM ALLOWABLE VERTICAL LOAD IS THE MANUFACTURERS MAXIMUM ALLOWABLE BRACKET LOAD.
2. IF VERTICAL LOAD ON BRACKET EXCEEDS 300 LBS, USE L3"x 3"x 1/4" BRACE. COPE LEG AS REQUIRED.
3. ISOLATE ALL COPPER PIPE W/ PVC TAPE.
4. ALL MATERIAL SHALL BE STAINLESS STEEL IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN A WATER BEARING STRUCTURE. IN ALL OTHER AREAS, THE MATERIALS SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
5. FIELD PAINT GALVANIZED STEEL PER THE SPECIFICATIONS.

KNEE BRACE PIPE SUPPORT

SCALE: NONE

M430 TYP



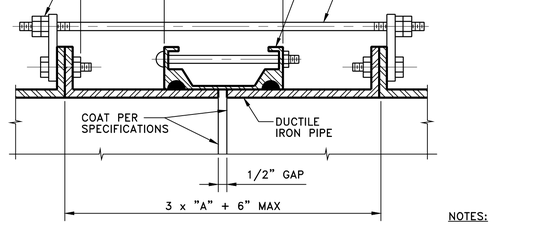
NOTES:

1. PIPE SUPPORT IS TO BE USED FOR 4"Ø AND LARGER PIPES. FOR SUPPORTS NOT AT FLANGES USE RISER CLAMPS ONE SIDE WELDED TO SUPPORTS.
2. MAXIMUM ALLOWABLE VERTICAL LOAD = 900 POUNDS PER SUPPORT. ADJUST SUPPORTS SPACING AS REQUIRED.
3. ALL MATERIAL SHALL BE STAINLESS STEEL IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN A WATER BEARING STRUCTURE. IN ALL OTHER AREAS, THE MATERIALS SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
4. FIELD PAINT GALVANIZED STEEL PER THE SPECIFICATIONS.

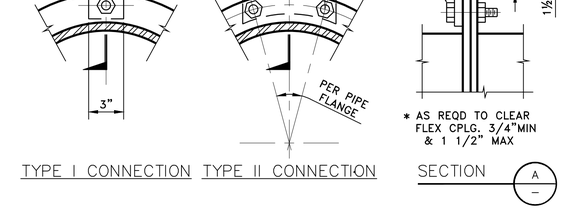
VERTICAL PIPE SUPPORT

SCALE: NONE

M432 TYP



ROD SCHEDULE FOR DIP		
PIPE THRUST SEE NOTE 2	TYPE OF CONNECTION	NO RODS
0-6,000#	I	2
6,001-12,000#	II	2
12,001-18,000#	II	3
18,001-24,000#	II	4
24,001-30,000#	II	5
> 30,000 #	II	SEE NOTE 5



NOTES:

1. ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
2. CALCULATE PIPE THRUST BASED ON TEST PRESSURE.
3. PIPE THRUST = 0.7854 x D^2 x TEST PRESSURE (PSI), WHERE D IS PIPE OD IN INCHES.
4. MINIMUM YIELD STRENGTH FOR TIE ROD SHALL BE 48,000 PSI.
5. FOR THRUSTS GREATER THAN 30,000 POUNDS, ADD ONE 3/4 INCH DIAMETER ROD FOR EVERY 6,000 POUNDS INCREASING THRUST.
6. CONTRACTOR MAY USE ONE INCH DIAMETER ROD FOR THRUSTS GREATER THAN 30,000 POUNDS. NUMBER OF ONE INCH RODS = NUMBER OF 3/4 INCH RODS x 0.5625, ROUNDED OFF TO THE NEXT LARGER NUMBER.
7. ALL ROD CONNECTIONS SHALL BE TYPE II FOR THRUSTS GREATER THAN 30,000\POUNDS.
8. GRIND ALL CORNERS OF ANCHOR PLATES SMOOTH.
9. FLEXIBLE COUPLINGS SHALL BE COATED PER SPECIFICATIONS.
10. ALL BURIED MATERIALS SHALL BE STAINLESS STEEL.

DIP FLEXIBLE COUPLING TIE DOWN

SCALE: NONE

M490 TYP

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CITY OF NEWMAN

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RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

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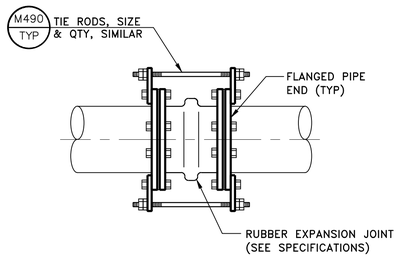
Title

TYPICAL MECHANICAL DETAILS 2

Project No.	Scale
2002005593	
Revision	Sheet
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Drawing No.	
M04	

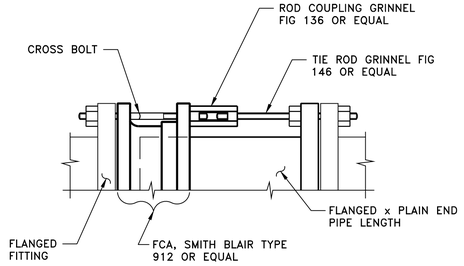
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ORIGINAL SHEET - ANSI D



RESTRAINED FLEXIBLE RUBBER COUPLING M493 TYP

SCALE: NONE



PIPE SIZE	3"	4"	6"	8"	10"	12"
TIE ROD SIZE	5/8"	5/8"	3/4"	3/4"	7/8"	7/8"
NO. OF TIE RODS	2	2	2	4	4	4

FCA WITH TIE-RODS M495 TYP

SCALE: NONE

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Title
TYPICAL MECHANICAL DETAILS 3

Project No. 2002005593
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ORIGINAL SHEET - ANSI D

ELECTRICAL SYMBOLS - PLANS

CLG.	WALL	FLOOR	SYMBOLS DESCRIPTION
			INCANDESCENT OR HID FIXTURE
			FLUORESCENT FIXTURE – CIRCLE INDICATES J-BOX ABOVE
			AREA LIGHT AND POLE
			LIGHTING FIXTURE WITH EMERGENCY BATTERY BACKUP
			EXIT FIXTURE, ARROWS AS INDICATED, SHADE AREA INDICATES EXIT FACE
			EMERGENCY LIGHTING UNIT (BATTERY POWERED)
			FIXTURE CONNECTED TO CKT #1, SWITCH "b"
			FIXTURE TYPE "A", 2-40 WATT LAMPS TYPICAL FOR ROOM NOTED, UON
CLG			DUPLEX RECEPTACLE *
	G		DUPLEX RECEPTACLE GFCI TYPE *
CLG			DOUBLE DUPLEX RECEPTACLE *
			RECEPTACLE, TYPE AS NOTED ON PLANS
	$		SINGLE POLE SWITCH **
	$2		DOUBLE POLE SWITCH **
	$3		THREE WAY SWITCH **
	$4		FOUR WAY SWITCH **
	$b		"b" DENOTES OUTLET CONTROLLED
	$K		KEY OPERATED SWITCH **
	$M		MANUAL MOTOR STARTER **
			OCCUPANCY SENSOR **
			TELEPHONE OUTLET *
			DATA OUTLET *
			TELEPHONE/DATA OUTLET
			THERMOSTAT OUTLET + 66" UON
			JUNCTION BOX * FOR WALL MTD.
	+18"		INDICATES HEIGHT FROM FINISHED FLOOR GRADE TO CENTERLINE OF DEVICE
	*		+ 18" UON
	**		+ 48" UON
			CONTROLLER/STARTER FURNISHED WITH EQUIPMENT
			DETAIL CALL-OUT: X, DETAIL IDENTIFIER; Y, SHEET WHERE DETAIL IS DRAWN

POWER WIRE COLOR CODE

SYSTEM	PHASE A	PHASE B	PHASE C	NEUTRAL	GROUND
208Y/120V	BLACK	RED	BLUE	WHITE	GREEN
480Y/277V	BROWN	ORANGE	YELLOW	GRAY	GREEN

GENERAL NOTES:

1. FIELD VERIFY EXACT LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK.
2. REFERENCE MECHANICAL AND CIVIL DRAWINGS FOR NEW AND EXISTING PIPING.
3. BELOW GRADE CONDUITS SHALL BE INSTALLED A MINIMUM DEPTH OF 18" BELOW THE FINISHED FLOOR/GRADE OR 18" BELOW ANY PIPE CROSSING THE CONDUIT PATH WHICHEVER IS DEEPER DOWN TO 5 FEET.
4. PROVIDE ELECTRICAL SYSTEM TESTING PER CONTRACT SPECIFICATION SECTION 16030 PRIOR TO ENERGIZING ANY ELECTRICAL EQUIPMENT OR SERVICES.

ELECTRICAL SYMBOLS - PLANS (CONTINUED)

	HAND HOLE, 11"Hx17"Lx12"D, UON
PB	PULLBOX, 36"HX60"LX36"D, UON
	PAD MOUNTED TRANSFORMER/ DRY TYPE TRANSFORMER
	NON-FUSIBLE DISCONNECT SWITCH, SIZE AS NOTED ON ONE LINE DIAGRAM **
	FUSIBLE DISCONNECT SWITCH, 3P UON SIZE AS NOTED ON ONE LINE DIAGRAM **
	DISCONNECT WITH EMERGENCY STOP
	FIELD CONTROL STATION SEE SCHEMATIC DIAGRAM **
	FEEDER DESIGNATION SEE SCHEDULE FOR SIZE
	EQUIPMENT TAG
	CONDUIT CONCEALED IN WALLS OR CEILING 3/4"C-2#12, 1#12G, UON
	CONDUIT UNDER GROUND 3/4"C-2#12, 1#12G, UON
	CONDUIT EXPOSED 3/4"C-2#12, 1#12G, UON
	QUANTITY #12 WIRE CURVE LINE INDICATES GROUND WIRE
#10	WIRE SIZE OTHER THAN #12 CURVE LINE INDICATES GROUND WIRE
	CONDUIT STUBBED UP INTO EQUIPMENT AND PLUGGED
1-TSP	NUMBER OF 18 AWG TWISTED SHIELDED PAIR CABLE
1-TST	NUMBER OF 18 AWG TWISTED SHIELDED TRIAD CABLE
G	CONNECTION TO GROUND BUS.
G	GROUNDING CONDUCTOR 30" BELOW GRADE, #4/0 UON
G	EXOTHERMIC WELD CONNECTION
	DUCT BANK
E E E	EXISTING UNDERGROUND ELECTRICAL
A-1,3	HOMERUN TO PANEL A, CIRCUIT 1 AND 3
	CONDUIT BENDS TOWARD OBSERVER
	CONDUIT BENDS AWAY FROM OBSERVER
	CONDUIT STUB-OUT AND CAPPED
	FLEXIBLE CONDUIT CONNECTION
	MOTOR CONNECTION
	MOTOR CONNECTION. DISCONNECT FURNISHED WITH MOTOR
SV	SOLENOID VALVE
	DISCONNECTS OR COMBINATION STARTERS SERVING EQUIPMENT SHOWN. PROVIDE CONNECTING FEEDERS BETWEEN DEVICES, SIZE TO MATCH SERVING FEEDER.
	POWER DISTRIBUTION SWITCHBOARD
	SURFACE MOUNTED PANELBOARD
	FLUSH MOUNTED PANELBOARD
	SHEET NOTE, SEE NOTE INDICATED
	DEVICE CONNECTION POINT
	INTERCEPTION POINT FROM EXISTING TO NEW

ELECTRICAL SYMBOLS - ONE LINE DIAGRAM

DM	DIGITAL MULTI-FUNCTION METER
3	CURRENT TRANSFORMER, QUANTITY INDICATED
3	POTENTIAL TRANSFORMER, QUANTITY INDICATED
	POWER TRANSFORMER
	FEEDER DESIGNATION SEE SCHEDULE OR ONE LINE DIAGRAM FOR SIZE
30A MCP	CIRCUIT BREAKER, 3 POLE UNLESS NOTED MCP INDICATES MOTOR CIRCUIT PROTECTOR
4 RV	MAGNETIC MOTOR STARTER, NEMA SIZE INDICATED FULL-VOLTAGE NON-REVERSING UNLESS NOTED RV=REDUCED VOLTAGE STARTING 2S, 2W = 2 SPEED, 2 WINDING
	FUSE
	DISCONNECT SWITCH, NON-FUSIBLE, SEE PLANS FOR RATING
F	DISCONNECT SWITCH, FUSIBLE, SEE PLANS FOR RATING
10	MOTOR, 10 HORSEPOWER
G	GENERATOR
	SURGE ARRESTER
	GROUND
	DELTA CONNECTION
A	WYE CONNECTION
PFR	POWER FAILURE RELAY
VFD	VARIABLE FREQUENCY DRIVE
RVSS	REDUCED-VOLTAGE SOLID STATE STARTER
	CONTROLLER/STARTER FURNISHED WITH EQUIPMENT
GFP	GROUND FAULT PROTECTION
	INCOMING ELECTRIC SERVICE

ELECTRICAL SYMBOLS - SCHEMATIC DIAGRAMS

NORMALLY OPEN	NORMALLY CLOSED	DEVICE
		CONTACT
		TIMED CONTACT CONTACT ACTION RETARDED ON ENERGIZATION
		TIMED CONTACT CONTACT ACTION RETARDED ON DE-ENERGIZATION
		PUSH BUTTON SINGLE CIRCUIT MOMENTARY CONTACT
		PUSH BUTTON SINGLE CIRCUIT LOCK-OUT
		LIMIT SWITCH
		LIQUID LEVEL SWITCH
		PRESSURE OR VACUUM SWITCH
		FLOW SWITCH
		TEMPERATURE SWITCH
		SELECTOR SWITCH
		MANUAL MOTOR STARTER
D/I		DOOR INTERLOCK SWITCH
OL		MOTOR OVERLOAD RELAY CONTACT
		MOTOR OVERLOAD HEATER
A		PILOT LIGHT R=RED, W=WHITE, G=GREEN, A=AMBER, C=CLEAR
R		PILOT LIGHT-PUSH TO TEST
R		RELAY
TD		TIME DELAY RELAY
M		STARTER COIL
S		SOLENOID OPERATED VALVE
		MOTOR
		BELL OR BUZZER
ETM		ELAPSED TIME METER
		FUSE
		CONTROL POWER TRANSFORMER
		GROUND
		WIRING IN MOTOR STARTER OR CONTROL PANEL
		FIELD WIRING
		TERMINAL BLOCK IN FCS
		TERMINAL BLOCK IN MOTOR STARTER OR PANEL
		TERMINAL BLOCK IN PLC
PFR		POWER FAILURE
		SPACE HEATER
		RESISTOR
		CIRCUIT BREAKER
PR		PLC OUTPUT ISOLATION RELAY

ELECTRICAL ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
AICS	AMPERES INTERRUPTING CAPACITY, SYMMETRICAL
AIP	ABANDON IN PLACE
AT&T	ATLANTIC TELEPHONE AND TELEGRAPH
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER
/C	MULTI-CONDUCTOR CABLE
C	CONDUIT, CONDUCTOR
CB	CIRCUIT BREAKER
CL	CONTINUOUS LOAD
CKT	CIRCUIT
CNTL	CONTROL
CO	CONDUIT ONLY
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
DC	DIRECT CURRENT
DTB	DATA TERMINAL BOARD
DTL	DETAIL
DWG	DRAWING
E	EXISTING
ELEV	ELEVATION, ELEVATOR
EOL	ELECTRONIC OVERLOAD
FAP	FIRE ALARM PANEL
FCS	FIELD CONTROL STATION
FLUOR	FLUORESCENT
FO	FIBER OPTIC
G, GND	GROUND
GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
GFP	GROUND-FAULT PROTECTION
HH	HANDHOLE
HOA	HAND OFF AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HZ	HERTZ
JB	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT-AMPERES
KW	KILOWATT
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS AND GROUND FAULT
LTG	LIGHTING
MA	MILLIAMPERE
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MM	MULTI MODE
MTD	MOUNTED
MSC	MANUFACTURER SUPPLIED CABLE
N	NEUTRAL
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE
P	POLE
PB	PUSH BUTTON, PULL BOX
PC	PHOTO CELL
PFM	POWER FAIL MONITOR
PG&E	PACIFIC GAS & ELECTRIC
PH, ø	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PS	PRESSURE SWITCH
PSW	PAD MOUNTED SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RECPT	RECEPTACLE
REF	REFERENCE
REQ'D	REQUIRED
RR	REMOVE AND REINSTALL
RS	REMOVE AND SAVE
RW	REMOVE AND WASTE
SW	SWITCH
TB	TERMINAL BOARD
TEL	TELEPHONE
TM	THERMAL MAGNETIC
TSP	TWISTED SHIELDED PAIR
TTB	TELEPHONE TERMINAL BOARD
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS, WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER

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RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

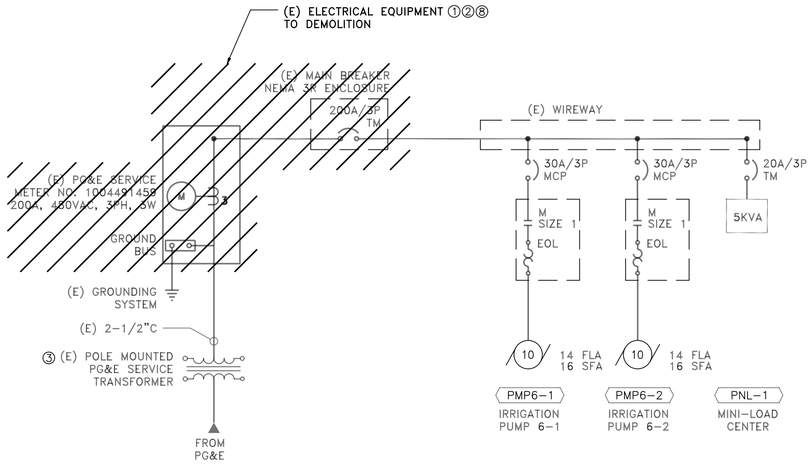
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Title

ELECTRICAL SYMBOLS AND ABBREVIATIONS

Project No. 2002005593
Scale NOT TO SCALE
Revision
Sheet 31 of 41
Drawing No. E01

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ORIGINAL SHEET - ANSI D



DEMO SHEET NOTES:

① REMOVED AND WASTE (E) PG&E SERVICE METER PANEL AND MAIN DISCONNECT WITH (E) AS INDICATED ON SINGLE LINE DIAGRAM B/E02.

② CONTRACTOR SHALL TURN OVER REMOVED EQUIPMENT TO OPERATIONS.

③ CONTRACTOR SHALL COORDINATE POWER DISCONNECTION REQUIREMENTS TO REMOVE AND REPLACE (E) SERVICE METER PANEL.

④ REMOVE (E) CONDUITS AND CIRCUITRY (WIRING) BETWEEN PG&E SERVICE FEEDER AND (E) WIREWAY.

SINGLE LINE DIAGRAM - DEMOLITION PLAN

SCALE: NONE

A E02A

LOAD CALCULATION

LOAD CENTER: (E) SERVICE PANEL (IPS-1) — 480 VAC, 3 PHASE SERVICE — 3 WIRE

FED FROM: (E) UTILITY TRANSFORMER

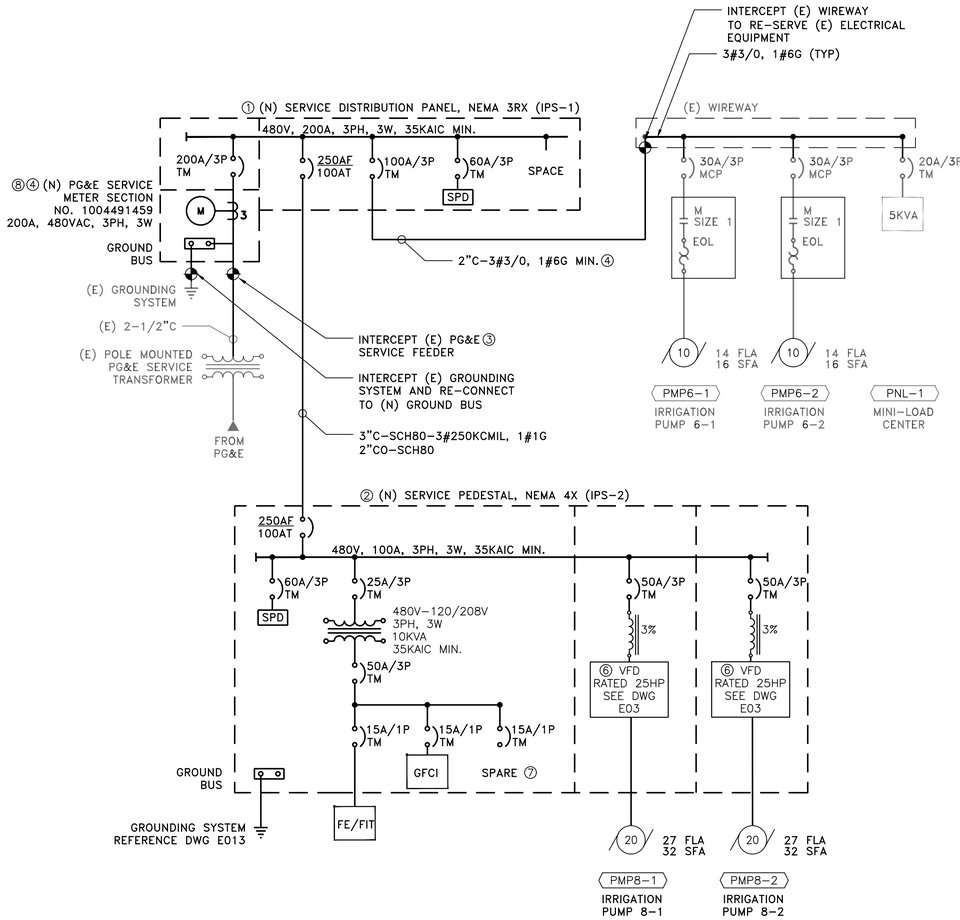
				CONNECTED			UTILITY	
EQUIPMENT NUMBER	HP	MOTOR CONTROL	EQUIPMENT DESCRIPTION	LOAD (AMPS)	QTY	LOAD (KVA)	RUN QTY	RUN (KVA)
PMP6-1,PMP6-2	10	FVNR	IRRIGATION PUMP STATION 1 PUMPS	14.0	2	23.3	2	23.3
PNL-1	5KW	CB	MINI-LOAD CENTER	6.0	1	5.0	1	5.0
IRRIGATION PS PNL-8-1		CB	(N) IRR PS 2 PNL	66.0	1	54.9	1	54.9
SUBTOTAL						83.2		83.2
LARGEST MOTOR @ 25%				10	HP			13.7
TOTAL								96.9
3 PHASE CURRENT				117 AMPS				
				100% MAXIMUM LOAD CURRENT				
CALCULATED SERVICE SIZE				117 AMPS				
MAIN BREAKER SIZE				200 AMPS				
% MAIN BREAKER LOAD				58%				

LOAD CALCULATION

LOAD CENTER: (N) IRR PS 2 PNL (IPS-2) — 480 VAC, 3 PHASE SERVICE — 3 WIRE

FED FROM: (N) SERVICE PANEL

				CONNECTED			UTILITY	
EQUIPMENT NUMBER	HP	MOTOR CONTROL	EQUIPMENT DESCRIPTION	LOAD (AMPS)	QTY	LOAD (KVA)	RUN QTY	RUN (KVA)
PMP8-1,PMP8-2	20	VFD	IRRIGATION PUMP STATION 2 PUMPS	27.0	2	44.9	2	44.9
PNL-8	10KVA	CB	MINI-LOAD CENTER	12.0	1	10.0	1	10.0
SUBTOTAL						54.9		54.9
LARGEST MOTOR @ 25%				20	HP			5.6
TOTAL								60.5
3 PHASE CURRENT				73 AMPS				
				100% MAXIMUM LOAD CURRENT				
CALCULATED SERVICE SIZE				73 AMPS				
MAIN BREAKER SIZE				100 AMPS				
% MAIN BREAKER LOAD				73%				



SINGLE LINE DIAGRAM - MODIFICATION PLAN

SCALE: NONE

B E02A

MODIFICATION SHEET NOTES:

① PROVIDE (N) SERVICE METER PANEL WITH INTEGRATED METER SECTION, METER MAIN, AND ELECTRICAL DISTRIBUTION SECTION. ALL CIRCUIT BREAKERS SHALL HAVE LOCKABLE PROVISIONS. PANEL SHALL HAVE INTEGRATED TYPE 2 SPD WITH RATING AS NOTED IN ELECTRICAL SPECIFICATION 16051. THE (N) METER SECTION SHALL BE "EUSERC" APPROVED PER PG&E GREENBOOK REQUIREMENT.

② PROVIDE (N) POWER DISTRIBUTION PANEL WITH INTEGRATED TYPE 2 SPD WITH RATING AS NOTED IN ELECTRICAL SPECIFICATION 16051.

③ INTERCEPT (E) PG&E SERVICE FEEDER AND RECONNECT TO (N) SERVICE PANEL. CONTRACTOR SHALL COORDINATE WITH PG&E TO RE-SERVE PANEL AND INSTALLATION OF (N) SERVICE PANEL.

④ CONTRACTOR SHALL COORDINATE WITH PG&E FOR SERVICE SHUTDOWN REQUIREMENTS.

⑤ PROVIDE (N) 2" PVC-GRS CONDUIT BETWEEN (N) DISTRIBUTION SECTION AND (E) WIREWAY. PROVIDE (N) CONDUCTORS AND RE-SERVE (E) EQUIPMENT.

⑥ PROVIDE COMBINATION VFD WITH LOCKABLE DISCONNECTS, LINE FILTERS, AND CONTROL REQUIREMENTS PER E03.

⑦ PROVIDE (3) SPARE 15A/1P CIRCUIT BREAKERS.

⑧ CONTRACTOR SHALL BE RESPONSIBLE FOR PG&E SERVICE APPLICATION AND COORDINATION REQUIRED FOR SERVICE UPGRADE. REFERENCE SPEC SECTION 16010 FOR ADDITIONAL REQUIREMENTS.

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NEWMAN, CALIFORNIA

File Name: 05593-E02A — Dwn. — Dsgn. — Chkd. — 2019.08.02 YYYY.MM.DD

Title

ELECTRICAL SINGLE LINE DEMO/MODIFICATIONS AND LOAD CALCULATIONS

Project No. 2002005593

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Revision

Sheet 32 of 41

Drawing No. E02A

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ORIGINAL SHEET - ANSI D

GENERAL ENCLOSURE NOTES

1. EXTERIOR 12 GAUGE HOT DIPPED STAINLESS STEEL, INTERIOR DEAD FRONT PANEL AND BACK PAN SHALL BE 14 GAUGE COLD ROLLED STEEL ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
2. CONSTRUCTION IS NEMA 4X, RAINTIGHT AND DUSTTIGHT, RATED FOR OUTDOOR USE.
3. ALL NUTS, BOLTS, SCREWS AND HINGES SHALL BE STAINLESS STEEL.
4. NUTS, BOLTS AND SCREWS SHALL NOT BE VISIBLE FROM OUTSIDE OF ENCLOSURE.
5. DOOR SHALL HAVE THREE POINT LATCHING MECHANISM WITH PADLOCKABLE HASP.
6. PROVIDE PHENOLIC NAMEPLATES TO IDENTIFY ALL DEVICES AND OPERATOR CONTROLS.
7. CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
8. A LAMINATED PLASTIC COVERED WIRING DIAGRAM WILL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
9. ENCLOSURE WILL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA STANDARDS.
10. ENCLOSURE WILL BE U.L. LISTED AS INDUSTRIAL CONTROL PANELS U.L. 508 FILE NO. E62062.
11. ENCLOSURE SHALL BE OF TWO PIECE CONSTRUCTION, ONE METER SECTION AND ONE SERVICE SECTION.
12. EXTERIOR COLOR: WHITE. INTERIOR COLOR: WHITE.

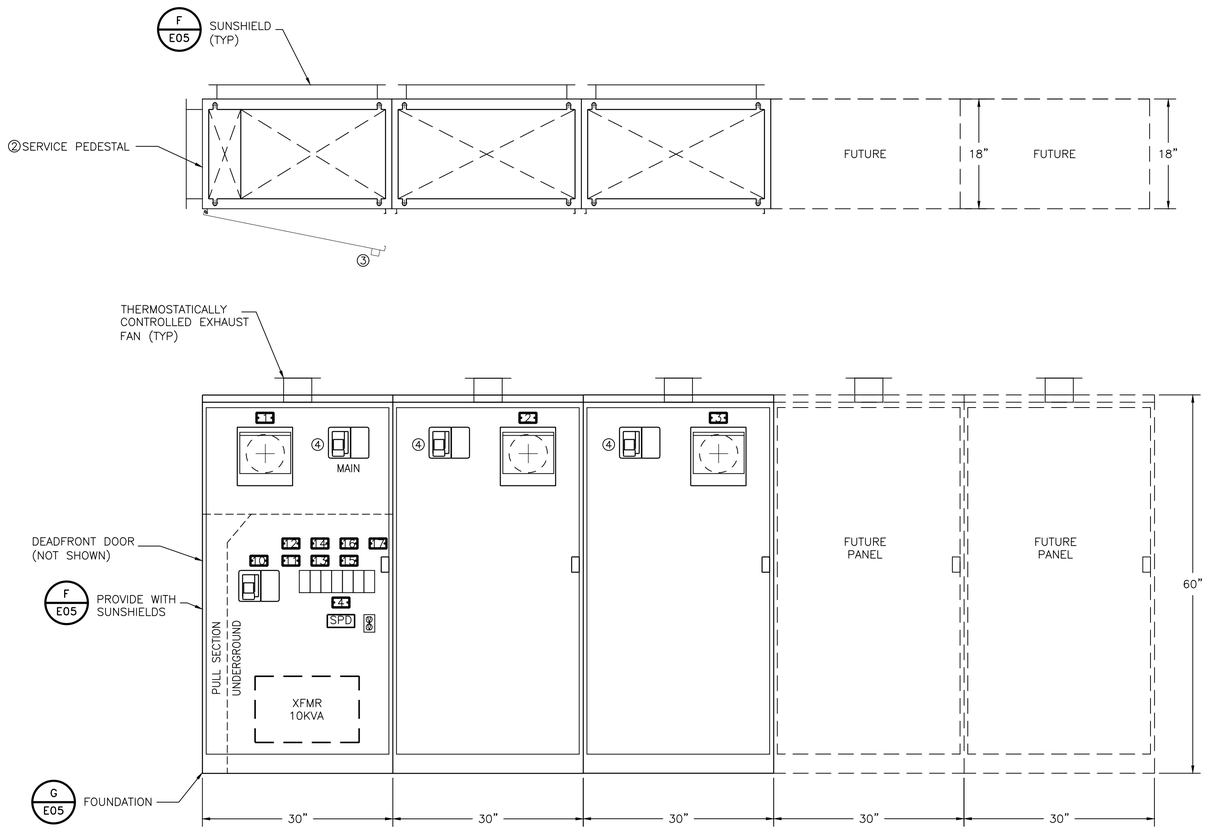
SHEET NOTES;

① PROVIDE SUNSHIELDS PER DETAIL TO TOP, SIDE AND REAR PANEL.

② PROVIDE NEMA 4X MINIMUM RATED PANEL.

③ PROVIDE HINGED LOCKABLE FRONT PANEL DOOR TO PREVENT UNAUTHORIZED PERSONNEL ACCESS.

④ PROVIDE CIRCUIT BREAKERS WITH PERMANENT LOCKABLE PROVISIONS.



SERVICE PEDESTAL AND CONTROL PANEL — B E02B

SCALE: NONE

UTILITY DIVISION OF WORK

DESCRIPTION OF WORK	ELECTRICAL CONTRACTOR	UTILITY COMPANY
PRIMARY CONDUITS	√	
PRIMARY CONDUCTORS		√
PRIMARY UTILITY VAULTS (IF SHOWN)	√	
SECONDARY CONDUITS	√	
SECONDARY CONDUCTORS		√
TRANSFORMER PAD	√	
TRANSFORMER		√
TRANSFORMER CONNECTIONS		√
BOLLARDS	√	
METER ENCLOSURE AND BASE	√	
UTILITY METER		√
CT ENCLOSURE	√	
CURRENT TRANSFORMERS (CT)		√

POWER UTILITY INFORMATION

UTILITY COMPANY	PG&E
CONTACT NAME	
PHONE NUMBER	
APPLICATION NO.	
EMAIL	
STREET ADRESS	
CITY, STATE ZIP+4	

NAMPLATE SCHEDULE

NO.	NAMEPLATE SIZE	LETTER SIZE	LABEL
1	2" x 5"	1/2"	IRRIGATION PUMP STATION
2	1" x 2.5"	1/4"	IPS2 PUMP 1
3	1" x 2.5"	1/4"	IPS2 PUMP 2
4			
5			
6			
7			
8			
9			
10	1" x 2.5"	1/4"	XFMR PRIMARY DSC
11	1" x 2.5"	1/4"	SPD
12	1" x 2.5"	1/4"	FE/FIT8-1
13	1" x 2.5"	1/4"	GFCI RECEPTACLE
14	1" x 2.5"	1/4"	SPARE
15	1" x 2.5"	1/4"	SPARE
16	1" x 2.5"	1/4"	SPARE
17	1" x 2.5"	1/4"	SPARE

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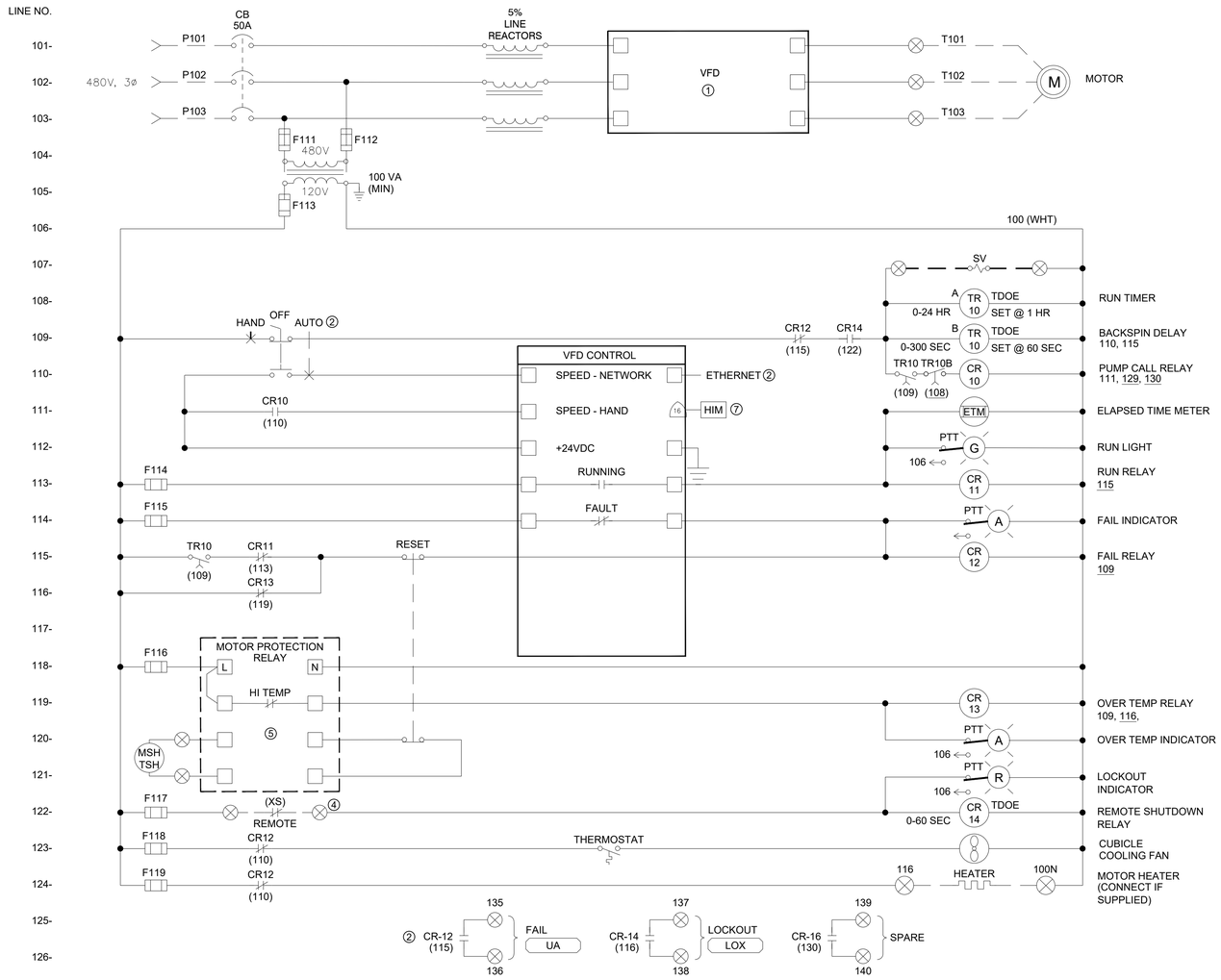
ELECTRICAL ELEVATIONS

Project No. 2002005593

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Revision — Sheet 33 of 41

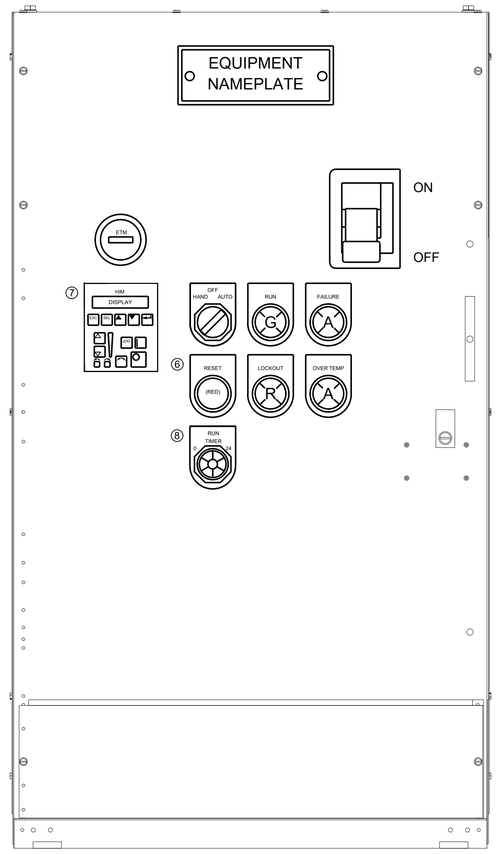
Drawing No. E02B



VFD ELEMENTARY DIAGRAM

SCALE: NONE

A E03



①③ ENCLOSURE ELEVATION

SCALE: NONE

B E03

SHEET NOTES:

① BUILT-IN PHASE REVERSAL, BYPASS, PHASE LOSS AND UNDER VOLTAGE PROTECTION RELAYS.

② INSTALL "AUTO" PROVISIONS FOR (F) PLC CONTROLS AND WIRELESS COMMUNICATIONS.

③ VFD AND EQUIPMENT COMPONENTS SHALL BE UL 508, NEMA ICS 6 TYPE 3R GASKETED ENCLOSURE WITH VENTILATION AND REPLACEABLE FILTERS COLORED LIGHT GRAY.

④ REMOTE SHUTDOWN XS=> LSL, LSH, PSH, ETC.PER ELECTRICAL DRAWING E06/DETAIL B. JUMPER IF NOT USED. THESE ARE TO BE CONTACTS OFF OF AUXILIARY RELAY CONTACTS LOCATED IN VFD ENCLOSURE FROM FIELD DEVICE.

⑤ INSTALL MOTOR PROTECTION RELAY. DEVICES IN ENCLOSURE AS RECOMMENDED BY THE MANUFACTURER. RELAY PROVIDED BY PUMP MANUFACTURER AND INSTALLED BY SYSTEM SUPPLIER.

⑥ ILLUMINATED PUSH BUTTON RESET. TRIP CAUSE LED STATUS.

⑦ PROVIDE VFD WITH INTEGRAL SPEED CONTROL VIA HMI.

⑧ PROVIDE ADJUSTABLE 0-24HR RUN TIMER MOUNTED TO FRONT OF VFD ENCLOSURE.

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File Name: 05593-E03 — Dwn. — Dsgn. — Chkd. — 2019.08.02 YYYY.MM.DD

Title

VFD ELEMENTARY WIRING DIAGRAM

Project No. 2002005593

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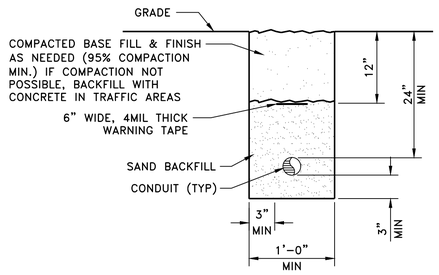
Revision

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Drawing No. E03

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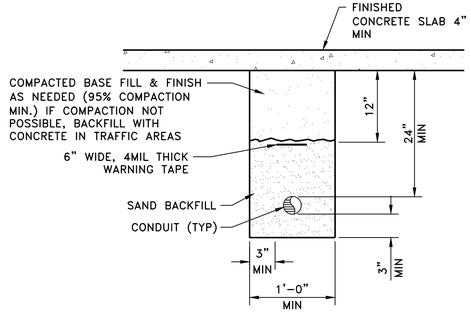
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TRENCH DETAIL

SCALE: NONE

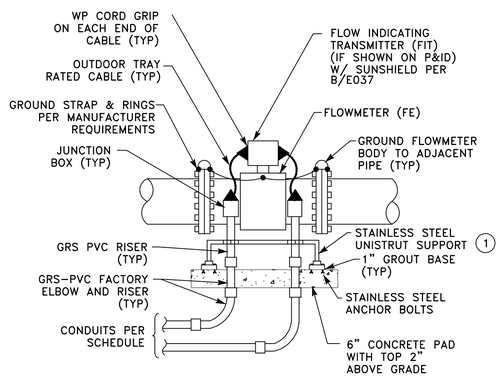
A E04



UNDER SLAB TRENCH DETAIL

SCALE: NONE

B E04

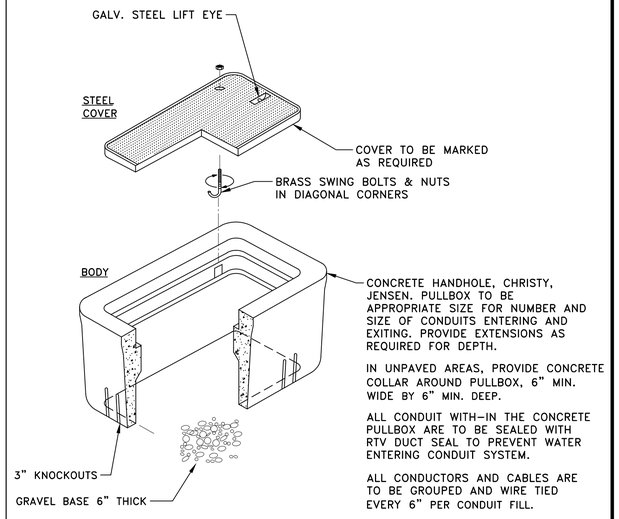


NOTES: (1) SUPPORT WITH TWO HOLE BASE ON EACH SIDE AND HEIGHT OF HORIZONTAL UNISTRUT SUPPORT TO BE 12" MINIMUM.

ABOVE GRADE FLOW METER DETAIL

SCALE: NONE

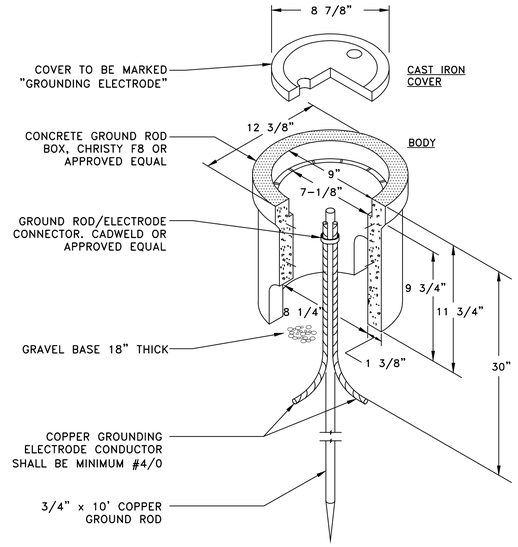
C E04



CONCRETE HANDHOLE DETAIL

SCALE: NONE

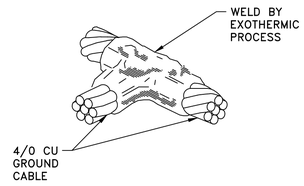
D E04



GROUND WELL DETAIL

SCALE: NONE

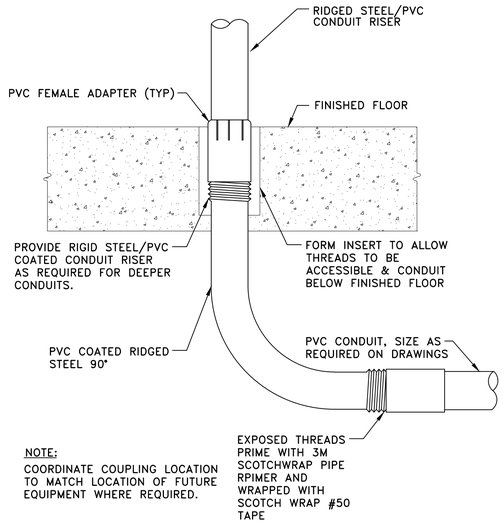
E E04



GROUND CONNECTION DETAIL

SCALE: NONE

F E04

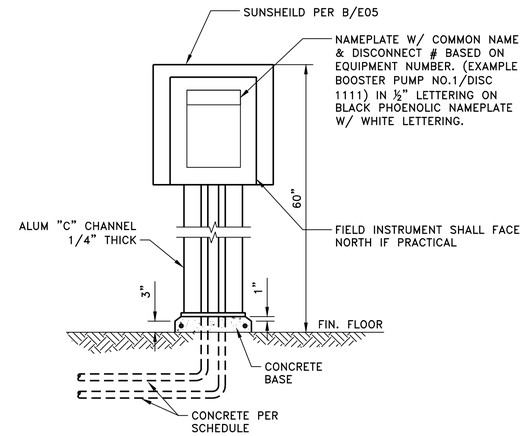


NOTE:
COORDINATE COUPLING LOCATION TO MATCH LOCATION OF FUTURE EQUIPMENT WHERE REQUIRED.

BELOW GRADE 90° CONDUIT INSTALLATION DETAIL

SCALE: NONE

G E04



FIELD MOUNTED TRANSMITTER

SCALE: NONE

H E04

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Client/Project
CITY OF NEWMAN

WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

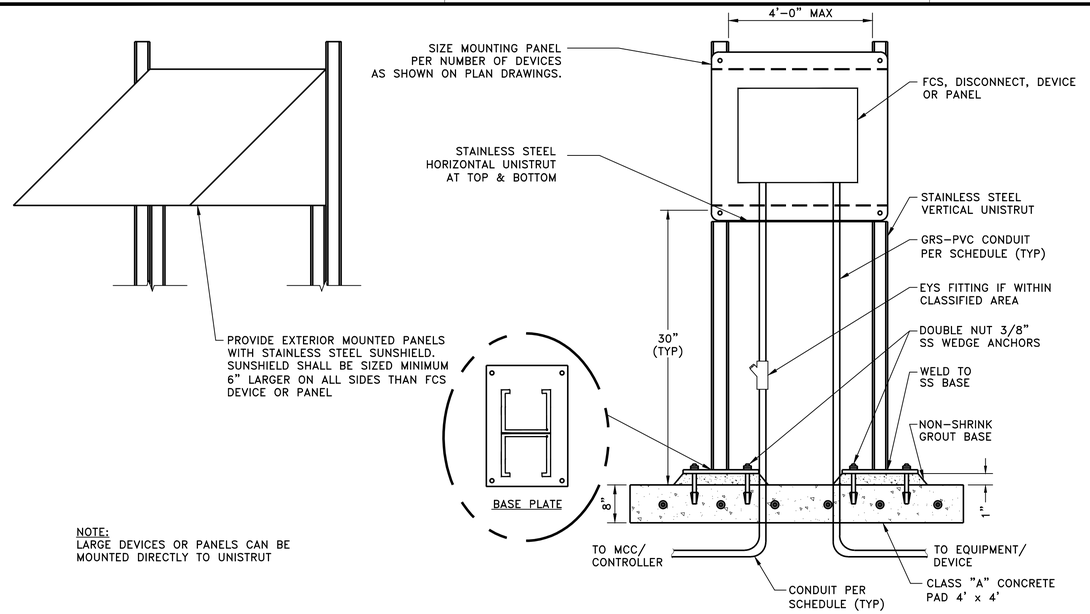
File Name: 05593-E04-E05 | Dwn. | Dsgn. | Chkd. | 2019.08.02 YYYY.MM.DD

Title
TYPICAL ELECTRICAL DETAILS 1

Project No. 2002005593
Scale NOT TO SCALE
Revision
Sheet 35 of 41
Drawing No. E04

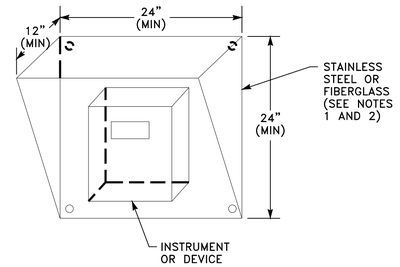
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ORIGINAL SHEET - ANSI D



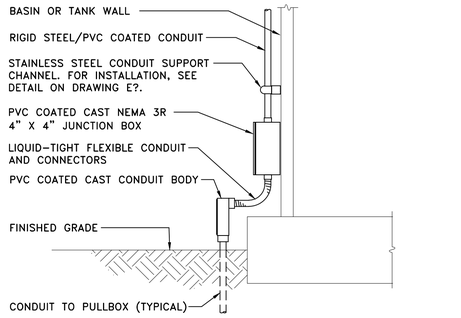
NOTE:
LARGE DEVICES OR PANELS CAN BE MOUNTED DIRECTLY TO UNISTRUT

PANEL SUPPORT DETAIL
SCALE: NONE — A / E05

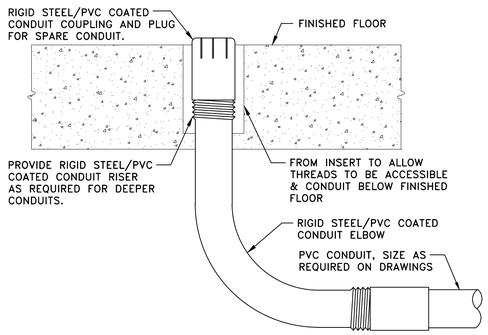


NOTE:
1. USA BLUEBOOK SUNSHIELD OR EQUAL.
2. SUPPORT WITH STAINLESS STEEL UNISTRUT.

SUNSHIELD DETAIL
SCALE: NONE — B / E05



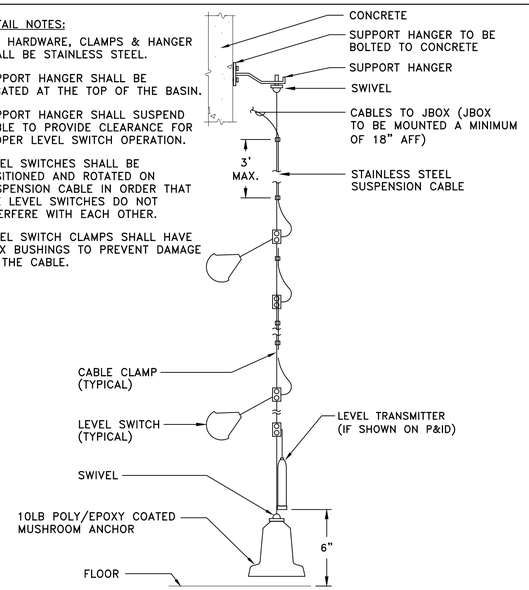
CONDUIT STUB-UP DETAIL
SCALE: NONE — C / E05



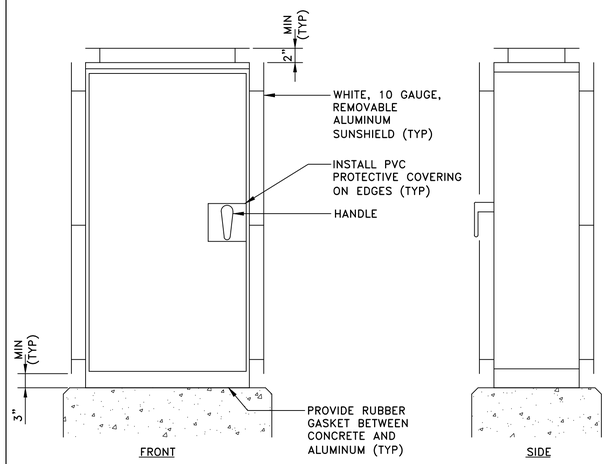
NOTE:
COORDINATE COUPLING LOCATION TO MATCH LOCATION OF FUTURE EQUIPMENT WHERE REQUIRED.

PVC CONDUIT STUB-UP DETAIL
SCALE: NONE — D / E05

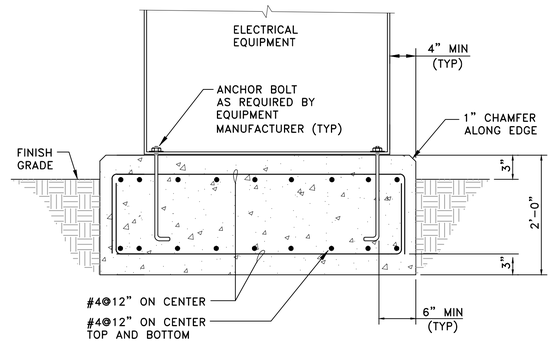
DETAIL NOTES:
1. ALL HARDWARE, CLAMPS & HANGER SHALL BE STAINLESS STEEL.
2. SUPPORT HANGER SHALL BE LOCATED AT THE TOP OF THE BASIN.
3. SUPPORT HANGER SHALL SUSPEND CABLE TO PROVIDE CLEARANCE FOR PROPER LEVEL SWITCH OPERATION.
4. LEVEL SWITCHES SHALL BE POSITIONED AND ROTATED ON SUSPENSION CABLE IN ORDER THAT THE LEVEL SWITCHES DO NOT INTERFERE WITH EACH OTHER.
5. LEVEL SWITCH CLAMPS SHALL HAVE FLEX BUSHINGS TO PREVENT DAMAGE TO THE CABLE.



LEVEL SWITCH & TRANSMITTER INSTALLATION DETAIL
SCALE: NONE — E / E05



SUNSHIELD INSTALLATION
SCALE: NONE — F / E05



SECTION THROUGH EQUIPMENT DEPTH

NOTES:
1. EQUIPMENT BASE TOP SHALL BE LEVEL.
2. PRIOR TO EQUIPMENT BASE INSTALLATION, COMPACT SOIL UNDER AND 6" BEYOND THE BASE TO 95% RELATIVE COMPACTION.

ELECTRICAL EQUIPMENT FOUNDATION
SCALE: NONE — G / E05

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WWTRF MCPIKE 1
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NEWMAN, CALIFORNIA

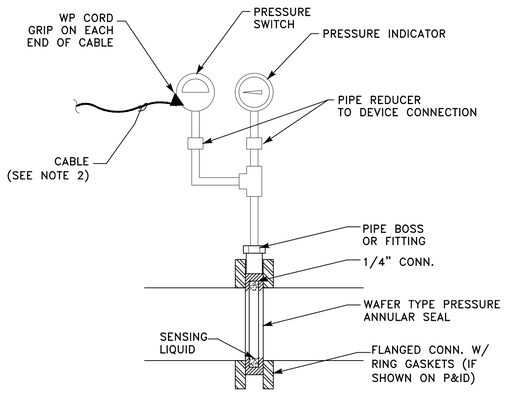
File Name: 05593-E04-E05 — Dwn. — Dsgn. — Chkd. — 2019.08.02 YYYY.MM.DD

Title
TYPICAL ELECTRICAL DETAILS 2

Project No. 2002005593
Scale NOT TO SCALE
Revision
Sheet 36 of 41
Drawing No. E05

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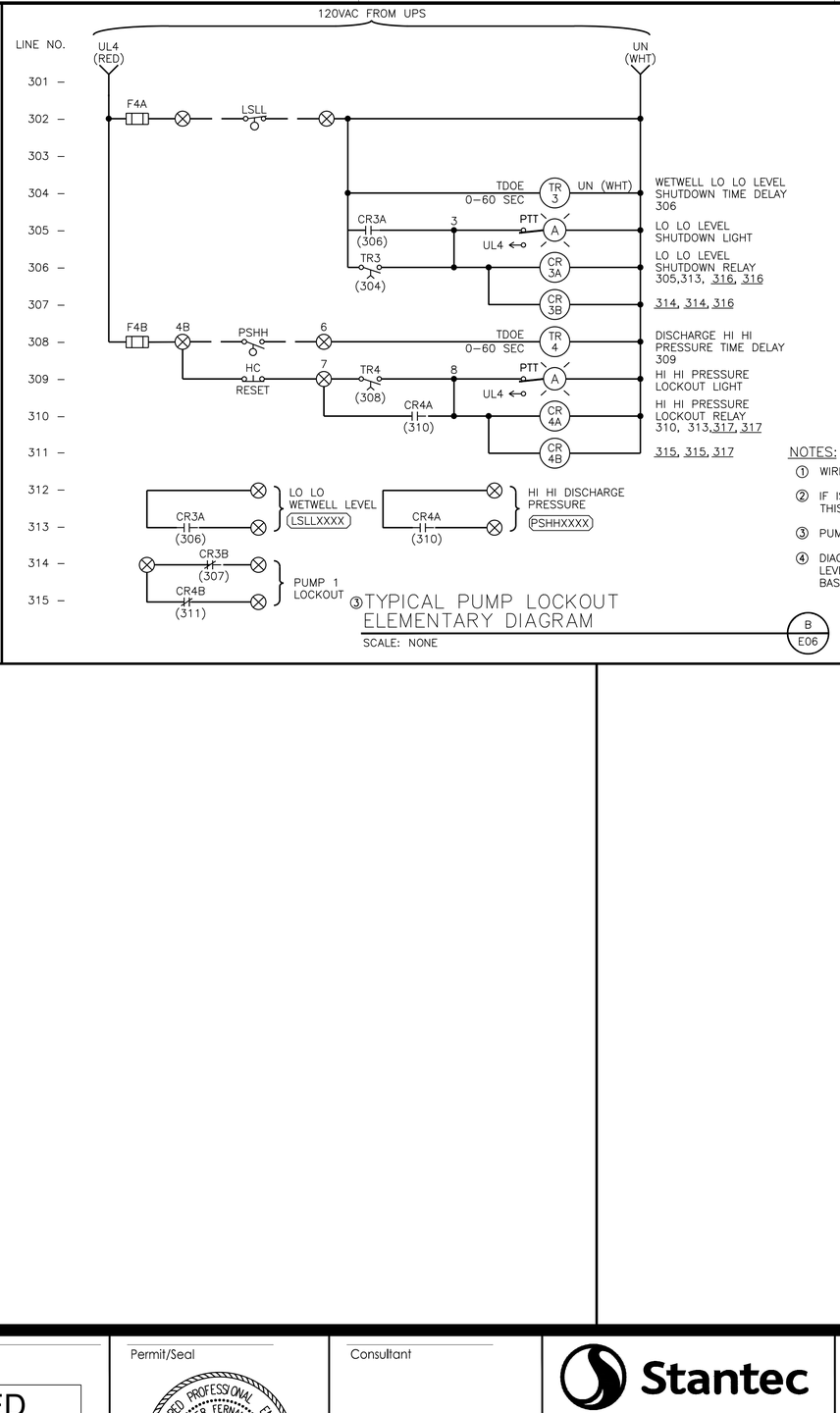


NOTE:

1. 1/2" GALVANIZED PIPING & VALVES.
2. OUTDOOR TRAY RATED CABLE TO JUNCTION BOX.

PRESSURE SWITCH/TRANSMITTER DETAIL (A / E06)

SCALE: NONE



③ TYPICAL PUMP LOCKOUT ELEMENTARY DIAGRAM (B / E06)

SCALE: NONE

NOTES:

① WIRES & TERMINALS LABELED PER LOOP DIAGRAMS.

② IF ISR IS REQUIRED PER P & ID, WIRE ALARM, WIRE TO THIS INPUT.

③ PUMP LOCKED TO BE PROVIDED IF SHOWN ON P & ID.

④ DIAGRAM SHOWN IS FOR TYPICAL PUMP CONTROLS. ADD HIGH LEVEL OR LO LO ALARMS AS SHOWN IN P & ID AND BASED ON THIS TEMPLATE.

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File Name: 05593-E06 — Dwn. — Dsgn. — Chkd. — 2019.08.02 YYYY.MM.DD

Title

TYPICAL ELECTRICAL DETAILS 3

Project No. 2002005593

Scale

Revision

Sheet 37 of 41

Drawing No. E06

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ORIGINAL SHEET - ANSI D

ENTIRE DRAWING

GENERAL NOTES:

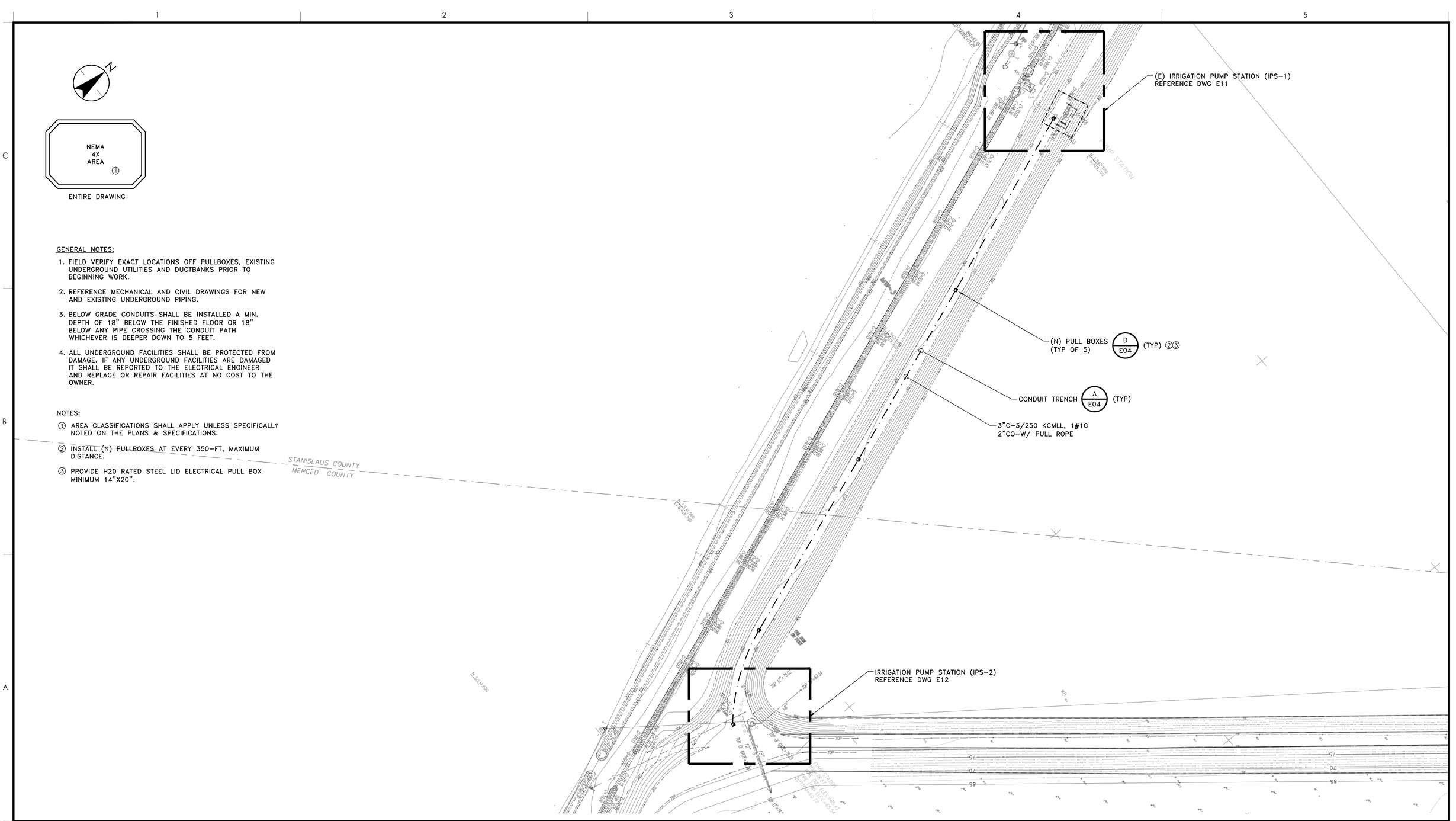
1. FIELD VERIFY EXACT LOCATIONS OFF PULLBOXES, EXISTING UNDERGROUND UTILITIES AND DUCTBANKS PRIOR TO BEGINNING WORK.
2. REFERENCE MECHANICAL AND CIVIL DRAWINGS FOR NEW AND EXISTING UNDERGROUND PIPING.
3. BELOW GRADE CONDUITS SHALL BE INSTALLED A MIN. DEPTH OF 18" BELOW THE FINISHED FLOOR OR 18" BELOW ANY PIPE CROSSING THE CONDUIT PATH WHICHEVER IS DEEPER DOWN TO 5 FEET.
4. ALL UNDERGROUND FACILITIES SHALL BE PROTECTED FROM DAMAGE. IF ANY UNDERGROUND FACILITIES ARE DAMAGED IT SHALL BE REPORTED TO THE ELECTRICAL ENGINEER AND REPLACE OR REPAIR FACILITIES AT NO COST TO THE OWNER.

NOTES:

① AREA CLASSIFICATIONS SHALL APPLY UNLESS SPECIFICALLY NOTED ON THE PLANS & SPECIFICATIONS.

② INSTALL (N) PULLBOXES AT EVERY 350-FT, MAXIMUM DISTANCE.

③ PROVIDE H20 RATED STEEL LID ELECTRICAL PULL BOX MINIMUM 14"X20".



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JENNIFER FERNANDEZ
No. E21883
Exp.6/30/21
ELECTRICAL
STATE OF CALIFORNIA

Consultant

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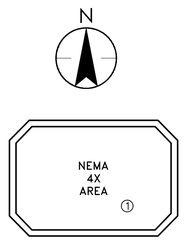
Title

OVERALL ELECTRICAL SITE PLAN

Project No. 2002005593
Scale 1" = 75'
Revision
Sheet 38 of 41
Drawing No. E10

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ORIGINAL SHEET - ANSI D



ENTIRE DRAWING

(E) OVERHEAD SERVICE LINES

⑥ (E) PG&E POWER POLE AND POLE MOUNTED SERVICE TRANSFORMER

(E) 2"C – SERVICE FEEDER

GENERAL NOTES:

1. FIELD VERIFY EXACT LOCATIONS OF PULLBOXES, EXISTING UNDERGROUND UTILITIES AND DUCTBANKS PRIOR TO BEGINNING WORK.
2. REFERENCE MECHANICAL AND CIVIL DRAWINGS FOR NEW AND EXISTING UNDERGROUND PIPING.
3. BELOW GRADE CONDUITS SHALL BE INSTALLED A MIN. DEPTH OF 18" BELOW THE FINISHED FLOOR OR 18" BELOW ANY PIPE CROSSING THE CONDUIT PATH WHICHEVER IS DEEPER DOWN TO 5 FEET.
4. ALL UNDERGROUND FACILITIES SHALL BE PROTECTED FROM DAMAGE. IF ANY UNDERGROUND FACILITIES ARE DAMAGED IT SHALL BE REPORTED TO THE ELECTRICAL ENGINEER AND REPLACE OR REPAIR FACILITIES AT NO COST TO THE OWNER.

NOTES:

① AREA CLASSIFICATIONS SHALL APPLY UNLESS SPECIFICALLY NOTED ON THE PLANS & SPECIFICATIONS.

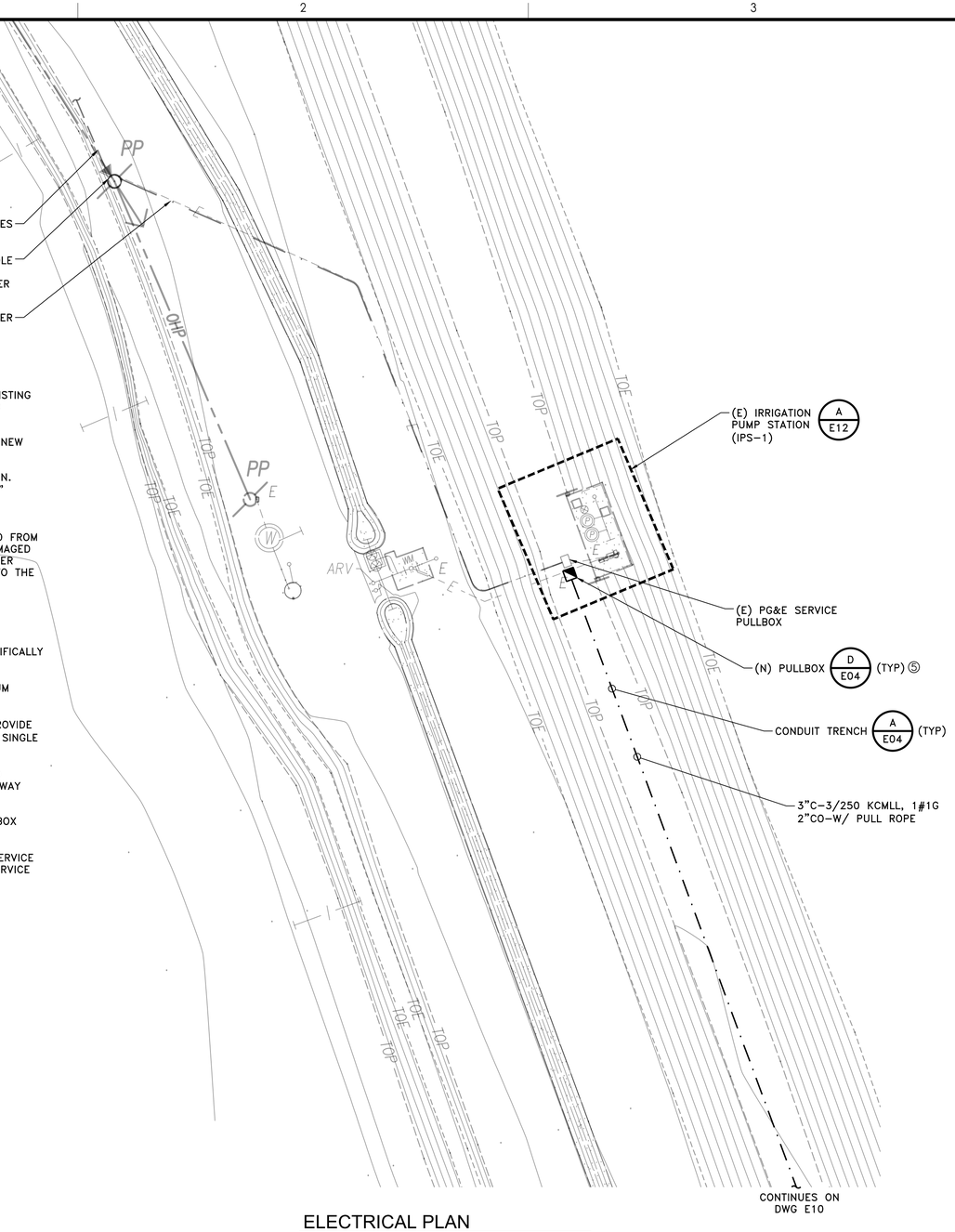
② INSTALL (N) PULLBOXES AT EVERY 350–FT MAXIMUM DISTANCE.

③ (R&W) (E) SERVICE METER AND MAIN BREAKER. PROVIDE (N) SERVICE DISTRIBUTION PANEL PER ELECTRICAL SINGLE LINE DWG E02.

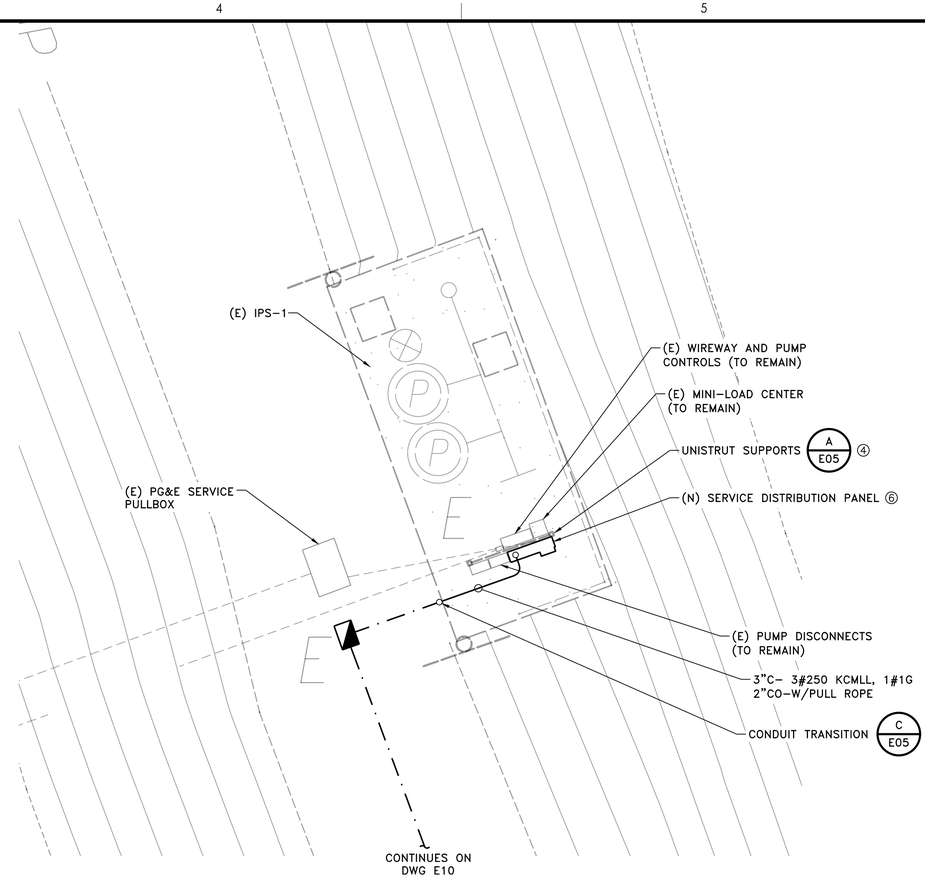
④ PROVIDE (N) MOUNTING HARDWARE AS REQUIRE TO SECURE CONDUIT STUB–UPS, AND REMAINING WIREWAY AND IPS–1 PUMP MOTOR CONTROLS.

⑤ PROVIDE H20 RATED STEEL LID ELECTRICAL PULL BOX MINIMUM 14"X20".

⑥ CONTRACTOR SHALL BE RESPONSIBLE FOR PG&E SERVICE APPLICATION AND COORDINATION REQUIRED FOR SERVICE UPGRADE. REFERENCE SPEC SECTION 16010 FOR ADDITIONAL REQUIREMENTS.



ELECTRICAL PLAN
SCALE: 1" = 20'



A – ELECTRICAL PLAN
SCALE: 1" = 5'–0"

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Consultant

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Client/Project
CITY OF NEWMAN

WWTRF MCPIKE 1
RECLAMATION IMPROVEMENTS

NEWMAN, CALIFORNIA

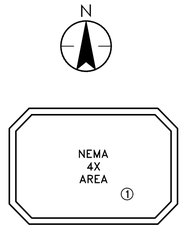
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Title
OVERALL ELECTRICAL SITE PLAN

Project No. 2002005593
Scale AS SHOWN
Revision
Sheet 39 of 41
Drawing No. E11

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ORIGINAL SHEET - ANSI D



ENTIRE DRAWING

GENERAL NOTES:

1. FIELD VERIFY EXACT LOCATIONS OFF PULLBOXES, EXISTING UNDERGROUND UTILITIES AND DUCTBANKS PRIOR TO BEGINNING WORK.
2. REFERENCE MECHANICAL AND CIVIL DRAWINGS FOR NEW AND EXISTING UNDERGROUND PIPING.
3. BELOW GRADE CONDUITS SHALL BE INSTALLED A MIN. DEPTH OF 18" BELOW THE FINISHED FLOOR OR 18" BELOW ANY PIPE CROSSING THE CONDUIT PATH WHICHEVER IS DEEPER DOWN TO 5 FEET.
4. ALL UNDERGROUND FACILITIES SHALL BE PROTECTED FROM DAMAGE. IF ANY UNDERGROUND FACILITIES ARE DAMAGED IT SHALL BE REPORTED TO THE ELECTRICAL ENGINEER AND REPLACE OR REPAIR FACILITIES AT NO COST TO THE OWNER.

NOTES:

① AREA CLASSIFICATIONS SHALL APPLY UNLESS SPECIFICALLY NOTED ON THE PLANS & SPECIFICATIONS.

② PROVIDE 36" WORKING CLEARANCE BETWEEN REAR PANEL AND EDGE OF PIPE.

③ PROVIDE 42" WORKING CLEARANCE BETWEEN FRONT PANEL AND EDGE OF BOLLARD.

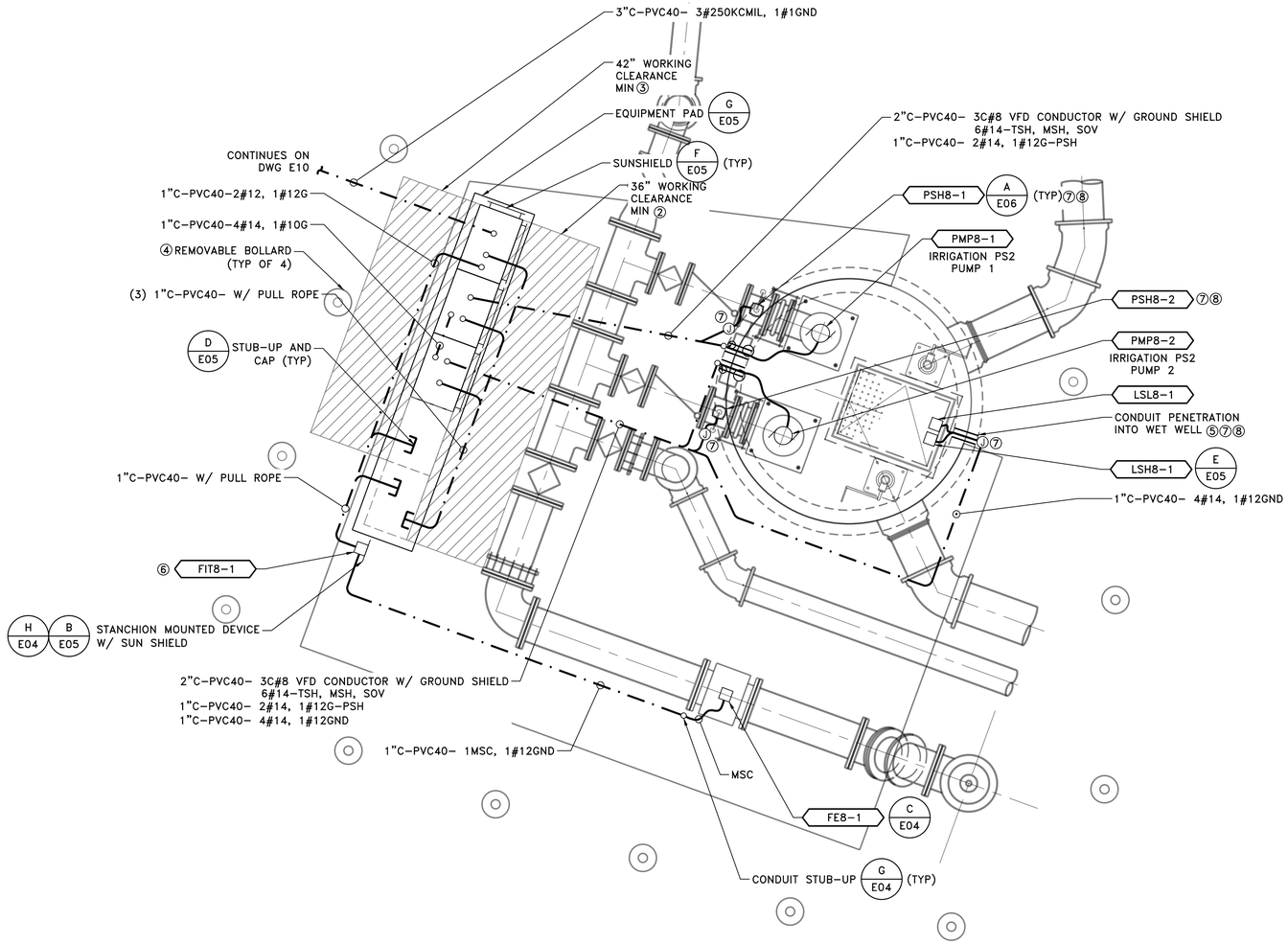
④ PROVIDE REMOVAL BOLLARDS IN FRONT OF ELECTRICAL EQUIPMENT TO ALLOW FOR OPERATIONAL MAINTENANCE.

⑤ PROVIDE WATER-TIGHT SEAL FOR ALL CONDUIT PENETRATION INTO WETWELL.

⑥ CONTRACTOR SHALL COORDINATE FIT8-1 LOCATION WITH OPERATIONS PRIOR TO INSTALLATION.

⑦ PROVIDE UNISTRUT SUPPORTS FOR JUNCTION BOX, ELECTRICAL EQUIPMENT AND DEVICES AS REQUIRED.

⑧ CONTRACTOR SHALL COORDINATE WITH OPERATIONS FOR LEVEL FLOATS AND PRESSURE SWITCH SETPOINT AND INSTALLATION REQUIREMENTS.



ELECTRICAL PLAN

SCALE: 3/8" = 1'-0"

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NEWMAN, CALIFORNIA

File Name: 05593-E12 | Dwn. | Dsgn. | Chkd. | 2019.08.02 YYYY.MM.DD

Title

IRIGATION PUMP STATION 2
ELECTRICAL PLAN

Project No. 2002005593
Scale 3/8"=1'-0"
Revision
Sheet 40 of 41
Drawing No. E12

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AREA
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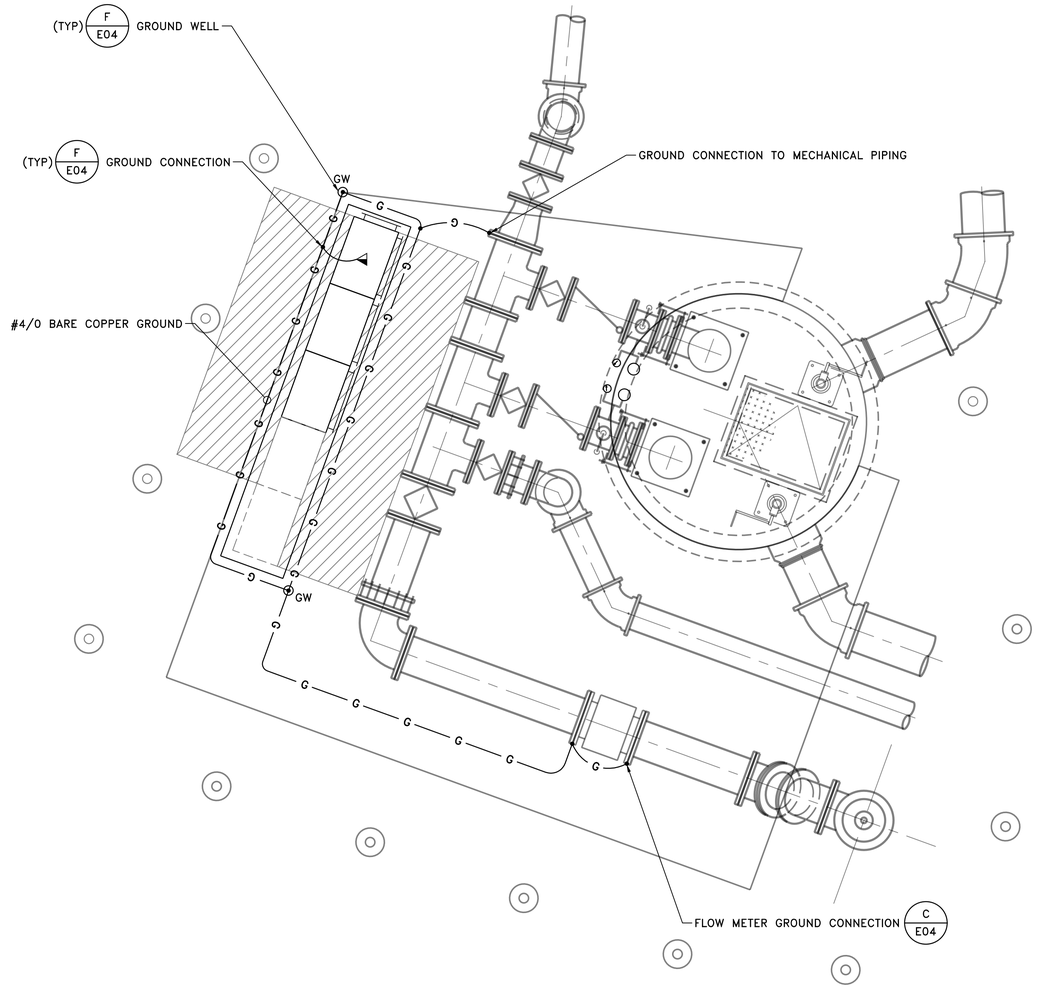
ENTIRE DRAWING

GENERAL NOTES:

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NOTES:

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GROUNDING PLAN
SCALE: 3/8" = 1'-0"

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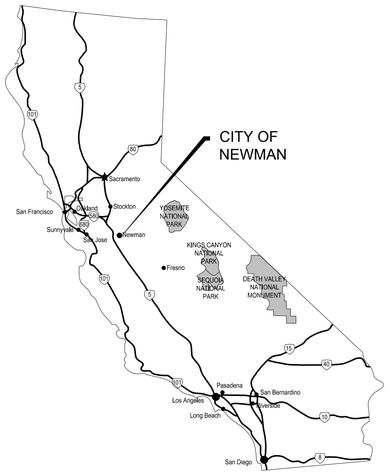
Title
IRIGATION PUMP STATION 2
GROUNDING PLAN

Project No. 2002005593
Scale 3/8"=1'-0"
Revision
Sheet 41 of 41
Drawing No. E13

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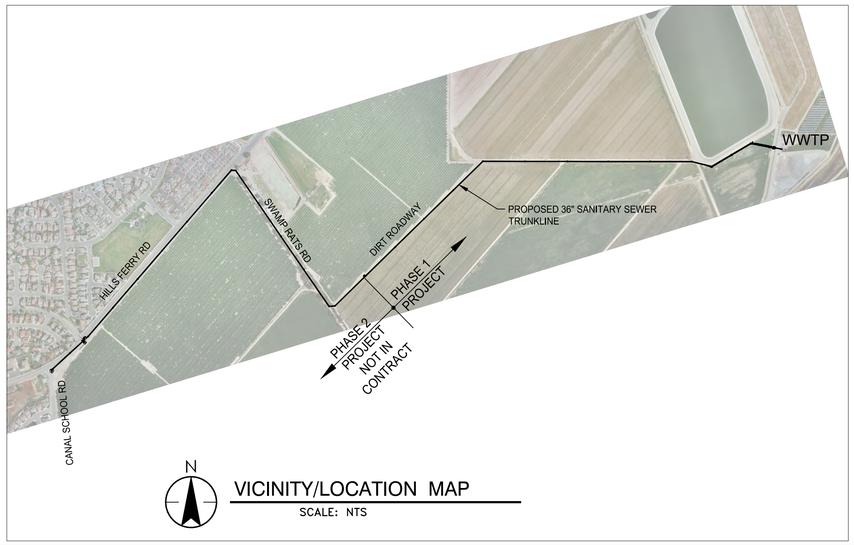
CONTRACT DRAWINGS FOR
CITY OF NEWMAN
NEWMAN INFLUENT TRUNK SEWER
OCTOBER, 2022



N

CALIFORNIA MAP

SCALE: NTS



N

VICINITY/LOCATION MAP

SCALE: NTS

DRAWING INDEX			
SHT NO.	DWG NO.	DESCRIPTION	
1	G-01	PROJECT TITLE, VICINITY AND LOCATION MAP, AND INDEX OF DRAWINGS	
2	G-02	ABBREVIATIONS, LEGENDS, PIPING SYSTEM, AND SYMBOLS	
3	GC-01	TYPICAL CIVIL DETAILS 1	
4	GC-02	CITY OF NEWMAN STANDARD TYPICAL	
5	GC-03	GATED MANHOLE - PLAN, SECTIONS AND DETAILS	(NOT IN CONTRACT)
6	C-01	GENERAL SITE PLAN / KEY MAP AND SURVEY CONTROL	
7	C-10	36" SS TRUNKLINE - PLAN AND PROFILE STA -0+25 TO STA 5+00	(NOT IN CONTRACT)
8	C-11	36" SS TRUNKLINE - PLAN AND PROFILE STA 5+00 TO STA 10+00	(NOT IN CONTRACT)
9	C-12	36" SS TRUNKLINE - PLAN AND PROFILE STA 10+00 TO STA 15+00	(NOT IN CONTRACT)
10	C-13	36" SS TRUNKLINE - PLAN AND PROFILE STA 15+00 TO STA 20+00	(NOT IN CONTRACT)
11	C-14	36" SS TRUNKLINE - PLAN AND PROFILE STA 20+00 TO STA 25+00	(NOT IN CONTRACT)
12	C-15	36" SS TRUNKLINE - PLAN AND PROFILE STA 25+00 TO STA 30+00	(NOT IN CONTRACT)
13	C-16	36" SS TRUNKLINE - PLAN AND PROFILE STA 30+00 TO STA 35+00	(NOT IN CONTRACT)
14	C-17	36" SS TRUNKLINE - PLAN AND PROFILE STA 35+00 TO STA 40+00	(NOT IN CONTRACT)
15	C-18	36" SS TRUNKLINE - PLAN AND PROFILE STA 40+00 TO STA 45+00	(NOT IN CONTRACT)
16	C-19	36" SS TRUNKLINE - PLAN AND PROFILE STA 45+00 TO STA 50+00	(NOT IN CONTRACT)
17	C-20	36" SS TRUNKLINE - PLAN AND PROFILE STA 50+00 TO STA 55+00	
18	C-21	36" SS TRUNKLINE - PLAN AND PROFILE STA 55+00 TO STA 60+00	
19	C-22	36" SS TRUNKLINE - PLAN AND PROFILE STA 60+00 TO STA 65+00	
20	C-23	36" SS TRUNKLINE - PLAN AND PROFILE STA 65+00 TO STA 70+00	
21	C-24	36" SS TRUNKLINE - PLAN AND PROFILE STA 70+00 TO STA 75+00	
22	C-25	36" SS TRUNKLINE/GRADING - PLAN AND PROFILE STA 75+00 TO STA 80+00	
23	C-26	36" SS TRUNKLINE/GRADING - PLAN AND PROFILE STA 80+00 TO STA 85+00	
24	C-27	36" SS TRUNKLINE/GRADING - PLAN AND PROFILE STA 85+00 TO STA 90+00	
25	C-28	36" SS TRUNKLINE/GRADING - PLAN AND PROFILE STA 90+00 TO STA 95+00	
26	C-29	36" SS TRUNKLINE/GRADING - PLAN AND PROFILE STA 95+00 TO STA 98+50	
27	C-30	36" SS TRUNKLINE/GRADING - PLAN AND PROFILE STA 98+50 TO STA 102+00	
28	C-31	SECTIONS AND DETAILS	
29	C-32	36" SS TRUNKLINE - PLAN AND PROFILE - DETAILS	
30	C-33	36" SS TRUNKLINE - PLAN AND PROFILE - DETAILS	

CITY APPROVAL

GABE ANOROW PE,
Project Manager

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Client/Project Logo

Client/Project
CITY OF NEWMAN
NEWMAN INFLUENT TRUNK SEWER
NEWMAN, CALIFORNIA

File Name: X31401-G01 | RG Dwn. | FR Dsgn. | FR Chkd. | 2022.10.03 YYYY.MM.DD

Title
PROJECT TITLE
VICINITY AND LOCATION MAP, DRAWING INDEX, AND DESIGN CRITERIA

Project No. 184031401
Scale NTS
Revision
Sheet 1 of 30
Drawing No. G-01

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EXISTING SURVEY LEGENDS

EX. GROUND ELEVATION
EX. TOP OF CURB ELEVATION
EX. FLOWLINE ELEVATION
EX. EDGE OF PAVEMENT ELEVATION
EX. A.C. PAVEMENT ELEVATION
EX. RIM ELEVATION
EX. GUTTER LIP ELEVATION
EX. CONCRETE ELEVATION
EX. CURB AND GUTTER
EX. EDGE OF PAVEMENT
EX. SANITARY SEWER LINE
EX. MANHOLE
EX. CLEAN-OUT
EX. STORM DRAIN LINE
EX. CATCH BASIN
EX. CATCH BASIN DROP INLET
EX. WATER LINE
EX. WATER METER
EX. FIRE HYDRANT
EX. GATE VALVE
EX. HOSE BIB
EX. POWER POLE
EX. TELEPHONE POLE
EX. JOINT POLE
EX. POLE WITH GUY ANCHOR
EX. SIGN
EX. LIGHTED BOLLARD
EX. GAS LINE
EX. ELECTRICAL CONDUIT
EX. TELEPHONE CONDUIT
EX. OVERHEAD POWER LINE
EX. RIGHT OF WAY
EX. PROPERTY LINE
EX. TELEPHONE BOOTH
EX. TELEPHONE BOX
EX. ELECTRICAL BOX
EX. LANDSCAPE IRRIGATION BOX
EX. ELECTROLIER
EX. TRAFFIC SIGNAL
EX. TRAFFIC DETECTOR LOOP BOX
EX. FENCE
EX. TREE, SPREAD DRAWN TO SCALE
EX. AREA OF CONCRETE
EX. AREA OF ASPHALT PAVEMENT

GENERAL CIVIL SYMBOLS

NEW
EXISTING
FUTURE
EXISTING TO BE REMOVED OR DEMOLISHED
CENTERLINE
EARTH (IN SECTION)
COMPACTED EARTH (IN SECTION)
S=0.0123 — SLOPE ON PAVED SURFACE
3:1 — BERM SLOPE (HORZ TO VERT)

DRAINAGE SYMBOLS

RIPRAP
HAY BALE
SILT FENCE

CORROSION CONTROL SYMBOLS

ETS — ELECTROLYSIS TEST STATION
CATHODIC TEST STATION
CTS — CORROSION TEST STATION CASING
CATS — TEST STATION INSULATING JOINT
IJTS — TEST STATION FOREIGN PIPELINE
FPTS — TEST STATION CURRENT SPAN
CSTS — TEST STATION

CONTROL SYMBOLS

BM-XX — BENCH MARK
EL XXXX.XX — MONUMENT
HORIZONTAL CONTROL POINT
VERTICAL CONTROL POINT
HORZ AND VERT CONTROL POINT
XXX.XX — FINISHED ELEVATION

CALLOUT SYMBOLS

A / C-001 — SECTION IDENTIFICATION LETTER; SHEET OR DRAWING NUMBER WHERE SECTION APPEARS
A / C-001 — SECTION IDENTIFICATION LETTER; SHEET OR DRAWING NUMBER WHERE SECTION IS TAKEN
1 / C-001 — DETAIL IDENTIFICATION NUMBER; SHEET OR DRAWING NUMBER WHERE DETAIL IS TAKEN

ABBREVIATIONS

AC	ASPHALT CONCRETE / PAVEMENT
APPROX	APPROXIMATE
BM	BENCH MARK
CB	CATCH BASIN
CJ	CONSTRUCTION JOINT
CL	CENTER / CENTERLINE
CLR	CLEARANCE
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CO	CLEAN-OUT
CONC	CONCRETE
D	DRAIN
DI	DRAIN INLET
DIA	DIAMETER
E	EAST/ EASTING/ ELECTRICAL
EF	EACH FACE
EL	ELEVATION
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EW	EACH WAY
EX	EXISTING
EXST	EXISTING
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
G	GAS
GD	GRAND DEED
HORZ	HORIZONTAL
H1E	HOOK ONE END
ID	INSIDE DIAMETER
INV	INVERT
IRR	IRRIGATION
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
N	NORTH / NORTHING
OD	OUTSIDE DIAMETER
PL	PLATE
PVMT	PAVEMENT
REINF	REINFORCEMENT, REINFORCNG

ABBREVIATIONS

S	SLOPE, SOUTH
SD	STORM DRAIN
SIM	SIMILAR
SS	SANITARY SEWER
SST	STAINLESS STEEL
ST	STORM
T	TELEPHONE
TYP	TYPICAL
T&B	TOP AND BOTTOM
W	WATER, WEST
WS	WATER STOP
VERT	VERTICAL

PROPOSED PIPING LEGEND/SYMBOL

SEWER MANHOLE
SS — SEWER / SANITARY PIPELINE
SEWER / SANITARY PIPELINE

GEOTECHNICAL SYMBOLS

B-X — SOIL BORING LOCATION
TEST PIT LOCATION
XX — OBSERVATION HOLE
MW — MONITORING WELL

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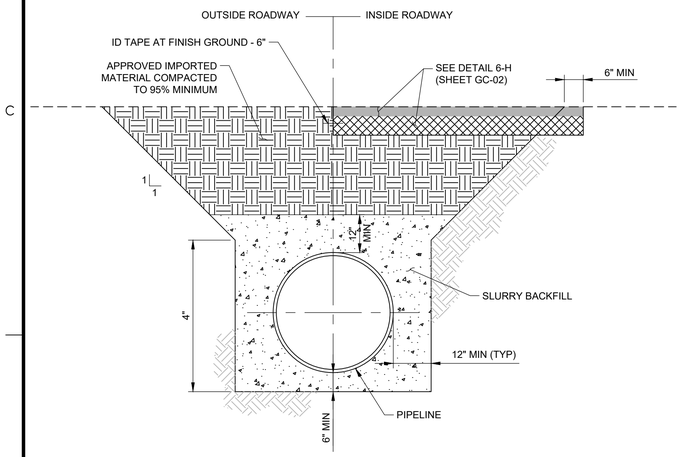
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NEWMAN INFLUENT TRUNK SEWER
NEWMAN, CALIFORNIA

File Name: X31401-G-02 — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

Title
ABBREVIATIONS, LEGENDS, PIPING SYSTEM, AND SYMBOLS

Project No. 184031401
Scale
Revision
Sheet 2 of 30
Drawing No. G-02

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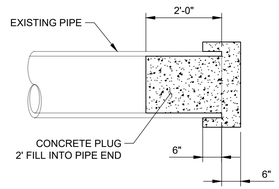
TYPICAL PIPE TRENCH WITH CEMENT SLURRY BACKFILL

SCALE: NONE

1 TYP

NOTES:

1. PIPE BEDDING ZONE AND TRECH ZONE BACKFILL SHALL BE COMPACTED PER SPECIFICATIONS
2. ALL EXCAVATIONS SHALL BE SHORED OR LAID BACK PER OSHA REQUIREMENTS, RESULTS OF PRELIMINARY FIELD INVESTIGATIONS ARE INCLUDED IN CONTRACT SPECIFICATIONS
3. MINIMUM COVER OF 24" OR AS SHOWN ON PLANS
4. FOR BACKFILL MATERIAL REQUIREMENTS, SEE SPECS. PONDING OR JETTING IS NOT AN ACCEPTABLE MEANS OF COMPACTION
4. TYPICAL PIPE TRENCH DETAIL SHALL BE UTILIZED UNLESS NOTED OTHERWISE
6. IF THE BOTTOM OF TRENCH IS SOFT AND OF UNSTABLE MATERIAL, IT SHALL BE OVER EXCAVATED 1 FOOT BELOW GRADE AND BACKFILL WITH APPROVED IMPORTED MATERIAL
7. SOIL DENSITIES ARE EXPRESSED AS A PERCENTAGE OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 1557.



NOTE:
AS AN ALTERNATIVE CONTRACTOR MAY SUBMIT PRECAST PLUG FOR DESIGN APPROVAL.

CONCRETE PLUG AT PIPE

2 TYP

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Client/Project
CITY OF NEWMAN

NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

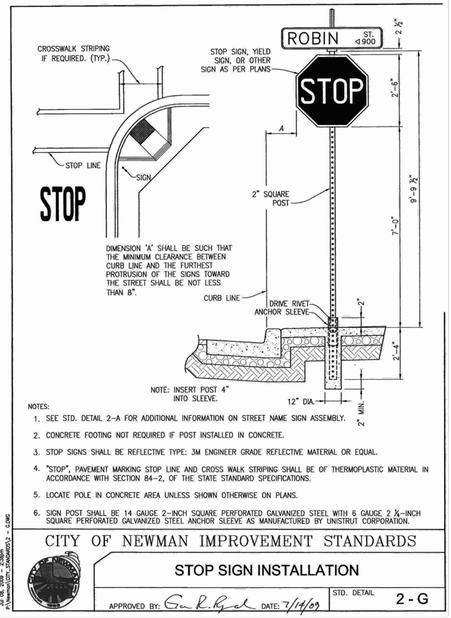
File Name: X31401-GC-DETAILS	RG Dwn.	FR Dsgn.	FR Chkd.	2022.10.03 YYYY.MM.DD

Title
TYPICAL CIVIL DETAILS 1

Project No. 184031401
Scale
Revision
Sheet 3 of 30
Drawing No. GC-01

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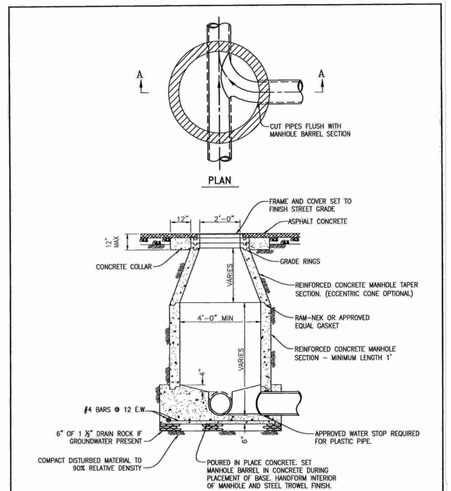
NOTES:

1. SEE STD. DETAIL 2-A FOR ADDITIONAL INFORMATION ON STREET NAME SIGN ASSEMBLY.
2. CONCRETE FOOTING NOT REQUIRED IF POST INSTALLED IN CONCRETE.
3. STOP SIGNS SHALL BE REFLECTIVE TYPE: 3M ENGINEER GRADE REFLECTIVE MATERIAL OR EQUAL.
4. "STOP", PAVEMENT MARKING STOP LINE AND CROSS WALK STRIPING SHALL BE OF THERMOPLASTIC MATERIAL IN ACCORDANCE WITH SECTION 84-2, OF THE STATE STANDARD SPECIFICATIONS.
5. LOCATE POLE IN CONCRETE AREA UNLESS SHOWN OTHERWISE ON PLANS.
6. SIGN POST SHALL BE 14 GAUGE 2-INCH SQUARE PERFORATED GALVANIZED STEEL WITH 6 GAUGE 2 1/4-INCH SQUARE PERFORATED GALVANIZED STEEL ANCHOR SLEEVE AS MANUFACTURED BY UNISTRUT CORPORATION.

CITY OF NEWMAN IMPROVEMENT STANDARDS

STOP SIGN INSTALLATION

APPROVED BY: DATE: 7/14/09 | STD. DETAIL 2 - G

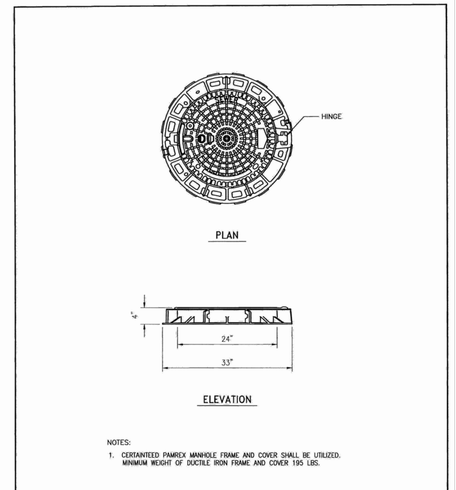


SECTION "A-A"

CITY OF NEWMAN IMPROVEMENT STANDARDS

SANITARY SEWER MANHOLE

APPROVED BY: DATE: 7/14/09 | STD. DETAIL 6 - A



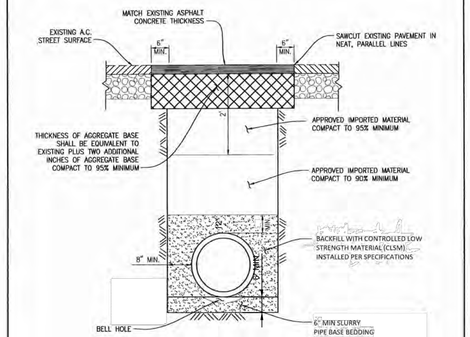
NOTES:

1. CERTAINTEED PAMREX MANHOLE FRAME AND COVER SHALL BE UTILIZED. MINIMUM WEIGHT OF DUCTILE IRON FRAME AND COVER 195 LBS.

CITY OF NEWMAN IMPROVEMENT STANDARDS

PAMREX MANHOLE FRAME AND COVER

APPROVED BY: DATE: 7/14/09 | STD. DETAIL 6 - D



NOTES:

1. IF THE BOTTOM OF TRENCH IS SOFT OR UNSTABLE, IT SHALL BE OVER-EXCAVATED 1 FOOT BELOW GRADE AND BACKFILLED WITH APPROVED IMPORTED MATERIAL.
2. TRENCHES NOT IN PAVED AREAS SHALL BE RESTORED TO MATCH EXISTING SURFACE CONDITIONS, OR AS SHOWN ON CONSTRUCTION PLANS.
3. SOIL DENSITIES ARE EXPRESSED AS A PERCENTAGE OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 1557.

CITY OF NEWMAN IMPROVEMENT STANDARDS

FLEXIBLE WALL PIPE BACKFILL

APPROVED BY: DATE: 7/14/09 | STD. DETAIL 6 - H

THRUST BLOCK AREA REQUIRED		
FITTINGS	ALLOWABLE SOIL BEARING VALUE 1,500 LBS. PER SQ. FT.	
6" LINE	"A"	"B"
22-½°	1'-6"	1'-0"
45°	2'-0"	1'-3"
90°	3'-0"	1'-6"
TEE OUTLET	2'-0"	1'-6"
DEAD END	2'-0"	1'-6"
8" LINE	"A"	"B"
22-½°	1'-6"	1'-6"
45°	2'-6"	1'-6"
90°	4'-0"	2'-0"
TEE OUTLET	2'-9"	2'-0"
DEAD END	2'-9"	2'-0"
10" LINE	"A"	"B"
22-½°	2'-3"	1'-6"
45°	3'-0"	2'-0"
90°	5'-0"	2'-6"
TEE OUTLET	3'-3"	2'-6"
DEAD END	3'-3"	2'-6"
12" LINE	"A"	"B"
22-½°	2'-6"	2'-0"
45°	4'-0"	2'-6"
90°	6'-0"	3'-0"
TEE OUTLET	4'-0"	3'-0"
DEAD END	4'-0"	3'-0"

NOTE:

1. ALL VALUES SHOWN ARE MINIMUM FOR A HYDROSTATIC PRESSURE OF 150 P.S.I. AND A SOIL RESISTANCE OF 1,500 LBS./SQ. FT. WITH A MINIMUM PIPELINE COVER OF 2'-6".
2. REDUCTION OF THE THRUST BLOCK SURFACE AREA WILL BE CONSIDERED UPON SUBMITTAL OF APPROVED SOIL BEARING TEST RESULTS GREATER THAN 1,500 LBS./SQ. FT.
3. ALL THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
4. THRUST BLOCKS SHOWN ARE FOR HORIZONTAL THRUST RESTRAINT. FOR VERTICAL THRUST RESTRAINT, DETAILS SHALL BE PROVIDED BY DESIGN ENGINEER.

CITY OF NEWMAN IMPROVEMENT STANDARDS

THRUST BLOCK DETAILS

APPROVED BY: DATE: 7/14/09 | STD. DETAIL 5 - I

NOTES:

1. IF BOTTOM OF TRENCH IS SOFT OR UNSTABLE, IT SHALL BE OVEREXCAVATED A MINIMUM OF 1 FOOT BELOW GRADE AND BACKFILLED WITH APPROVED IMPORTED MATERIAL.
2. FOR PVC PRESSURE PIPE PROVIDE 4 INCHES OF SAND BEDDING, COMPACT TO 90% MINIMUM.
3. SAND SHALL CONFORM TO THE FOLLOWING GRADING REQUIREMENTS:

SIEVE SIZE	PERCENTAGE PASSING
#4	100
#16	0-70
#30	0-15
#200	0-5

4. TRENCHES NOT IN PAVED AREAS SHALL BE RESTORED TO MATCH EXISTING SURFACE CONDITIONS.
5. SOIL DENSITIES ARE EXPRESSED AS A PERCENTAGE OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 1557.

CITY OF NEWMAN IMPROVEMENT STANDARDS

WATER LINE TRENCH DETAIL

APPROVED BY: DATE: 7/14/09 | STD. DETAIL 5 - J

NOTES:

1. IF BOTTOM OF TRENCH IS SOFT OR UNSTABLE, IT SHALL BE OVEREXCAVATED A MINIMUM OF 1 FOOT BELOW GRADE AND BACKFILLED WITH APPROVED IMPORTED MATERIAL.
2. SAND SHALL CONFORM TO THE FOLLOWING GRADING REQUIREMENTS:

SIEVE SIZE	PERCENTAGE PASSING
#4	100
#16	0-70
#30	0-15
#200	0-5

3. TRENCHES NOT IN PAVED AREAS SHALL BE RESTORED TO MATCH EXISTING SURFACE CONDITIONS.
4. SOIL DENSITIES ARE EXPRESSED AS A PERCENTAGE OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 1557.

CITY OF NEWMAN IMPROVEMENT STANDARDS

RIGID WALL PIPE BACKFILL

APPROVED BY: DATE: 7/14/09 | STD. DETAIL 7 - C

CITY OF NEWMAN IMPROVEMENT STANDARDS

STORM DRAIN MANHOLE

APPROVED BY: DATE: 7/14/09 | STD. DETAIL 7 - H

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CITY OF NEWMAN

NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-GC-DETAILS | RG Dwn. | FR Dsgn. | FR Chkd. | 2022.10.03 YYYY.MM.DD

Title

TYPICAL CIVIL DETAILS 2
CITY OF NEWMAN STANDARD TYPICAL

Project No. 184031401

Scale

Revision | Sheet 4 of 30

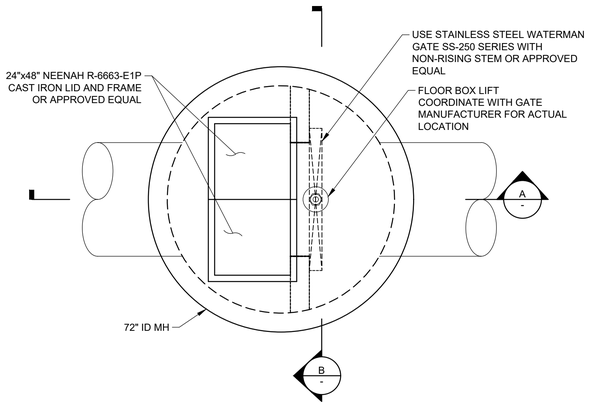
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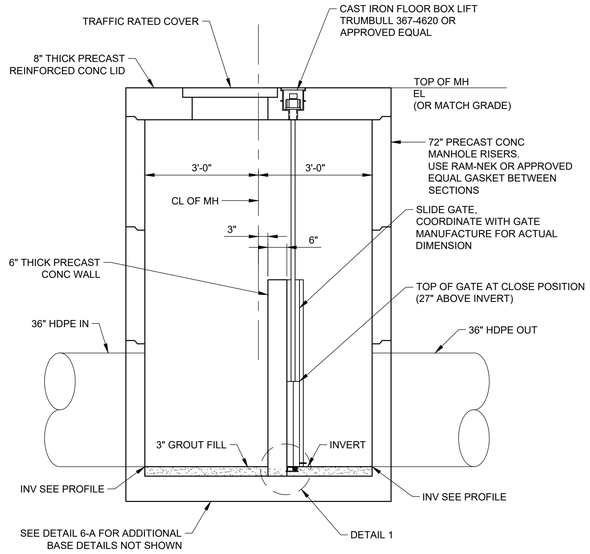
NOTES:

1. MANHOLE COVER, CONCRETE LID, AND FLOOR BOX LIFT SHALL BE DESIGNED TO WITHSTAND H-20 LOADING OR GREATER
2. PVC T-LOCK LINER ON INTERIOR EXPOSED CONCRETE AND GROUT SURFACES PER SPECS
3. COAT EXTERIOR OF BARREL WITH COAL TAR EPOXY.



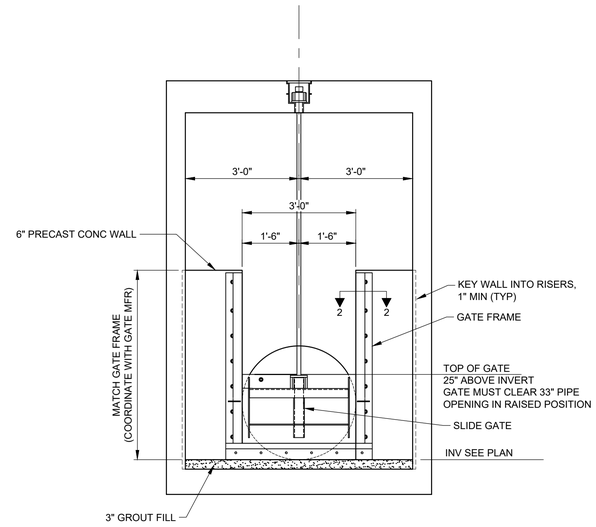
PLAN

SCALE: 1/2" = 1'-0"



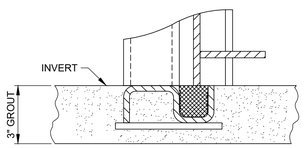
A - SECTION

SCALE: 1/2" = 1'-0"

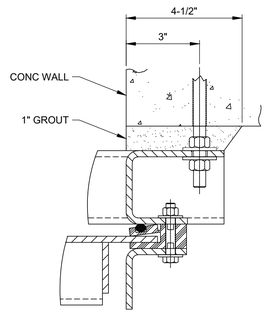


B - SECTION

SCALE: 1/2" = 1'-0"



DETAIL 1



DETAIL 2

PHASE 2 DRAWING

Issued — YYYY.MM.DD

Revision — By — Appd — YYYY.MM.DD

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Client/Project

CITY OF NEWMAN

NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-GC-03 — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

Title

GATED MANHHOLE
PLAN AND SECTIONS

Project No. 184031401

Scale

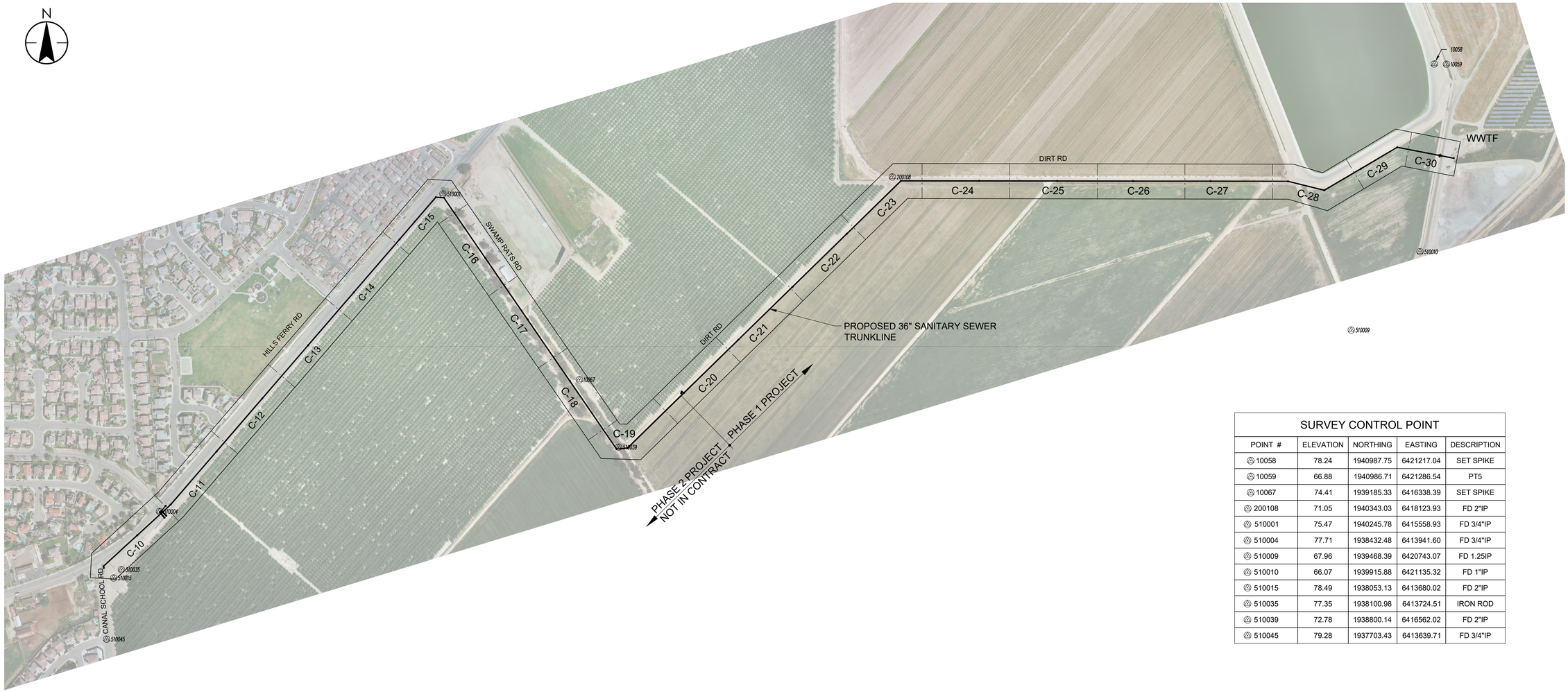
Revision

Sheet 5 of 30

Drawing No. GC-03

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ORIGINAL SHEET - ANSI D



SURVEY CONTROL POINT

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
10058	78.24	1940987.75	6421217.04	SET SPIKE
10059	66.88	1940986.71	6421286.54	PT5
10067	74.41	1939185.33	6416338.39	SET SPIKE
200108	71.05	1940343.03	6418123.93	FD 2"IP
510001	75.47	1940245.78	6415558.93	FD 3/4"IP
510004	77.71	1938432.48	6413941.60	FD 3/4"IP
510009	67.96	1939468.39	6420743.07	FD 1.25IP
510010	66.07	1939915.88	6421135.32	FD 1"IP
510015	78.49	1938053.13	6413680.02	FD 2"IP
510035	77.35	1938100.98	6413724.51	IRON ROD
510039	72.78	1938800.14	6416562.02	FD 2"IP
510045	79.28	1937703.43	6413639.71	FD 3/4"IP

VERTICAL DATUM: NGVD29
NGVD29 BASED ON BENCHMARK "J-982" ELEV: 66.77FT
NAVD88 CONVERSION: SUBTRACT 2.43 NAVD 88 TO NGVD29

HORIZONTAL DATUM:
CALIFORNIA STATE PLAN COORDINATE SYSTEM ZONE II
NAD83 (1991.35) CA HPGN

MEAN COMBINATION FACTOR (CF)
0 999957237089 1361
DISTANCE SHOWN HEREON ARE GRID DISTANCES
TO CONVERT GRID DISTANCE TO GROUND DISTANCE ... DIVIDED BY THE CF
TO CONVERT GROUND DISTANCE TO GRID DISTANCE ... MULTIPLE BY THE CF

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Client/Project Logo

Client/Project
CITY OF NEWMAN

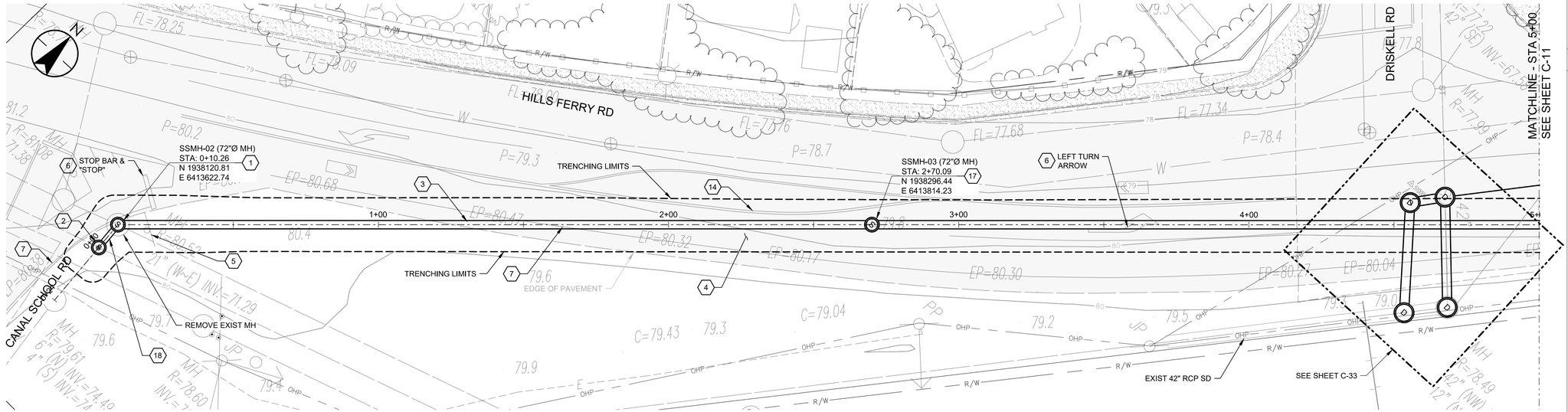
NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-C01 — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

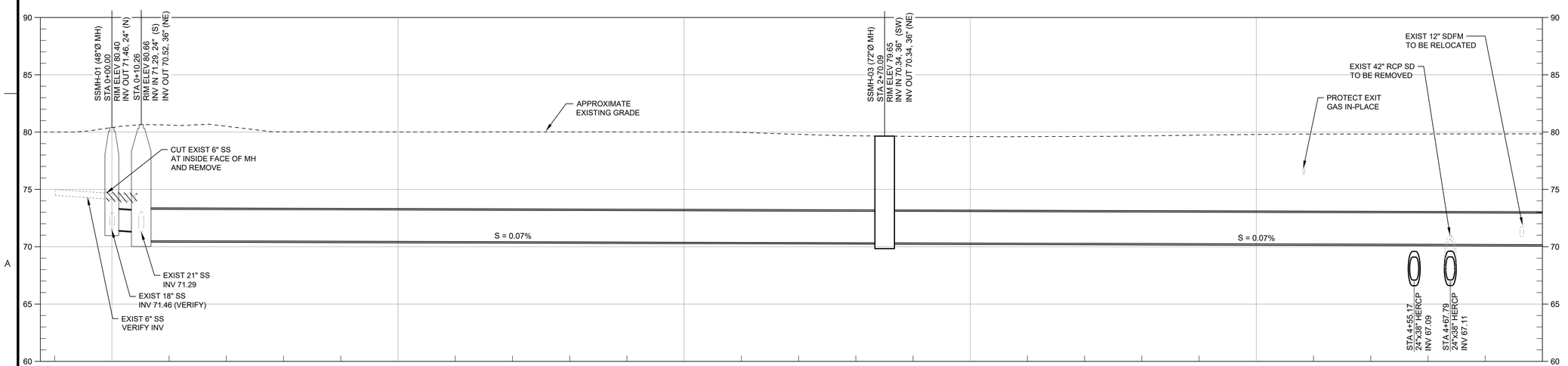
Title
GENERAL SITE PLAN / KEY PLAN AND SURVEY CONTROL

Project No. 184031401
Scale
Revision
Sheet 6 of 30
Drawing No. C-01



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES AND PROTECT IN PLACE ALL EXISTING UTILITIES NOT DESIGNATED FOR RELOCATION.

(#) CONSTRUCTION NOTES:

1. CONSTRUCT 72" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. CONSTRUCT ~~YURETHANE LINE MANHOLE SEE DETAIL 6~~ NOT USED ~~2~~
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
21. CONSTRUCT 24"x38" HERCP. SEE TRENCH SECTION DETAIL 7-C ON SHEET GC-02
22. CONSTRUCT 12" AWWA C-900 PVC STORM DRAIN FORCEMAIN. SEE TRENCH SECTION 5-J ON SHEET GC-02
23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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PHASE 2 DRAWING

Issuec — YYYY.MM.DD

Revision — By — Appd — YYYY.MM.DD

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NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

Title

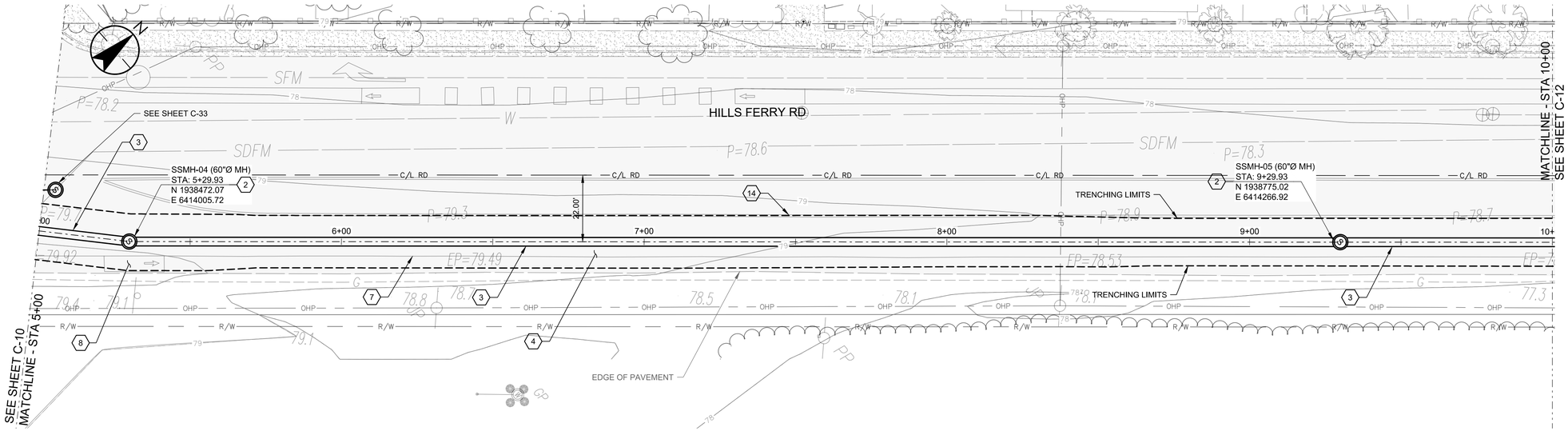
36" SS TRUNKLINE
PLAN AND PROFILE
STA -0+25 TO STA 5+00

Project No. 184031401 — Scale

Revision — Sheet 7 of 30 — Drawing No. C-10

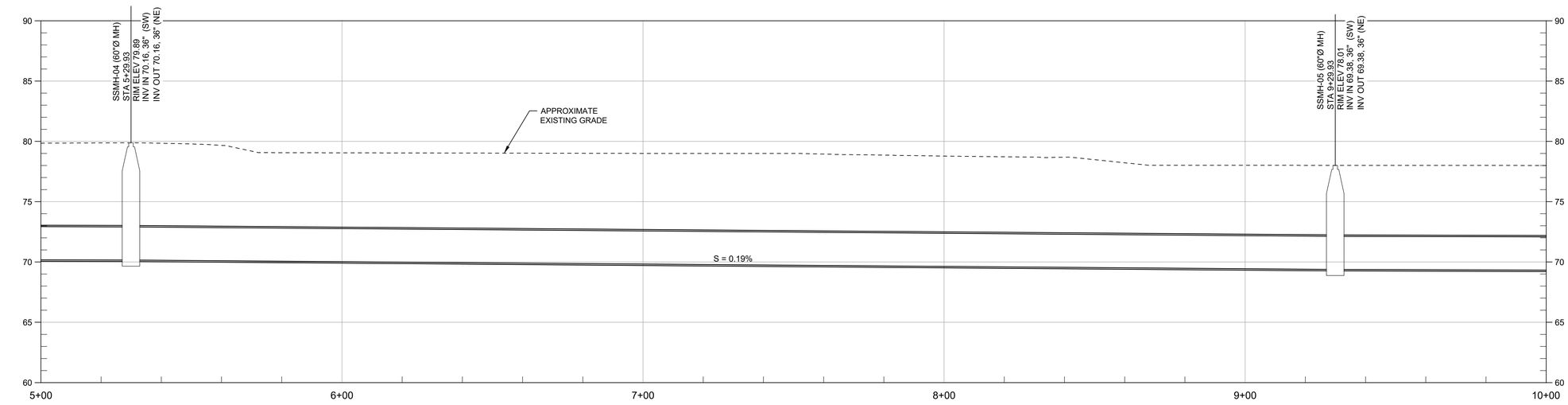
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES AND PROTECT IN PLACE ALL EXISTING UTILITIES NOT DESIGNATED FOR RELOCATION.

(#) CONSTRUCTION NOTES:

1. CONSTRUCT 72" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~YURETHANE LINE MANHOLE. SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
21. CONSTRUCT 24"x38" HERCP. SEE TRENCH SECTION DETAIL 7-C ON SHEET GC-02
22. CONSTRUCT 12" AWWA C-900 PVC STORM DRAIN FORCEMAIN. SEE TRENCH SECTION 5-J ON SHEET GC-02
23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF | RG Dwn. | FR Dsgn. | FR Chkd. | 2022.10.03 YYYY.MM.DD

Title

36" TRUNKLINE
PLAN AND PROFILE
STA 5+00 TO STA 10+00

Project No. 184031401

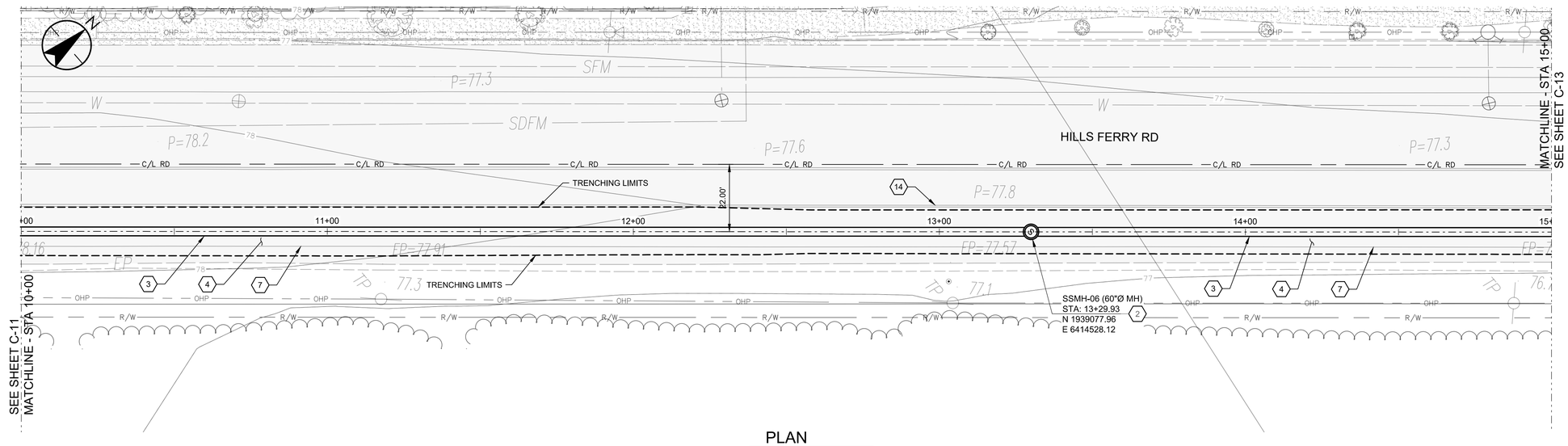
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Revision Sheet 8 of 30

Drawing No. C-11

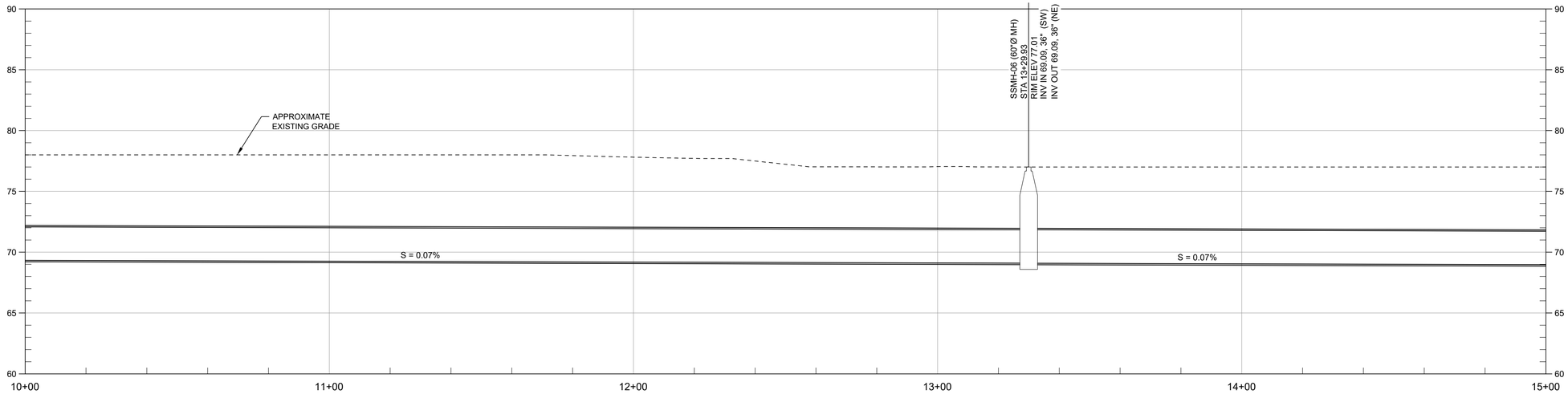
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES AND PROTECT IN PLACE ALL EXISTING UTILITIES NOT DESIGNATED FOR RELOCATION.

(#) CONSTRUCTION NOTES:

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2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~YURETHANE LINE MANHOLE. SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
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23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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PHASE 2 DRAWING

Issue YYYY.MM.DD

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Client/Project
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NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

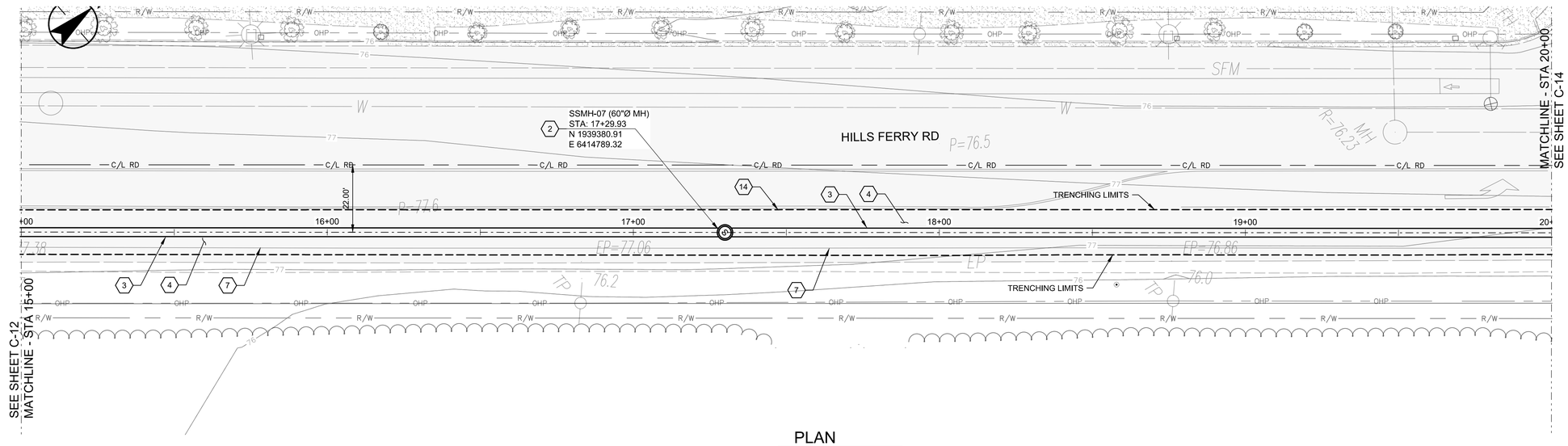
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Title
36" SS TRUNKLINE
PLAN AND PROFILE
STA 10+00 TO STA 15+00

Project No. 184031401
Scale
Revision
Sheet 9 of 30
Drawing No. C-12

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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'

PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

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10. ~~CONSTRUCT~~ NOT USED ~~URETHANE LINE MANHOLE SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
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23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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PHASE 2 DRAWING

Issuec — YYYY.MM.DD

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Consultant

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CITY OF NEWMAN — CALIFORNIA — AGRICULTURE — 1888

Client/Project

CITY OF NEWMAN

NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

Title

36" SS TRUNKLINE
PLAN AND PROFILE
STA 15+00 TO STA 20+00

Project No. 184031401

Scale

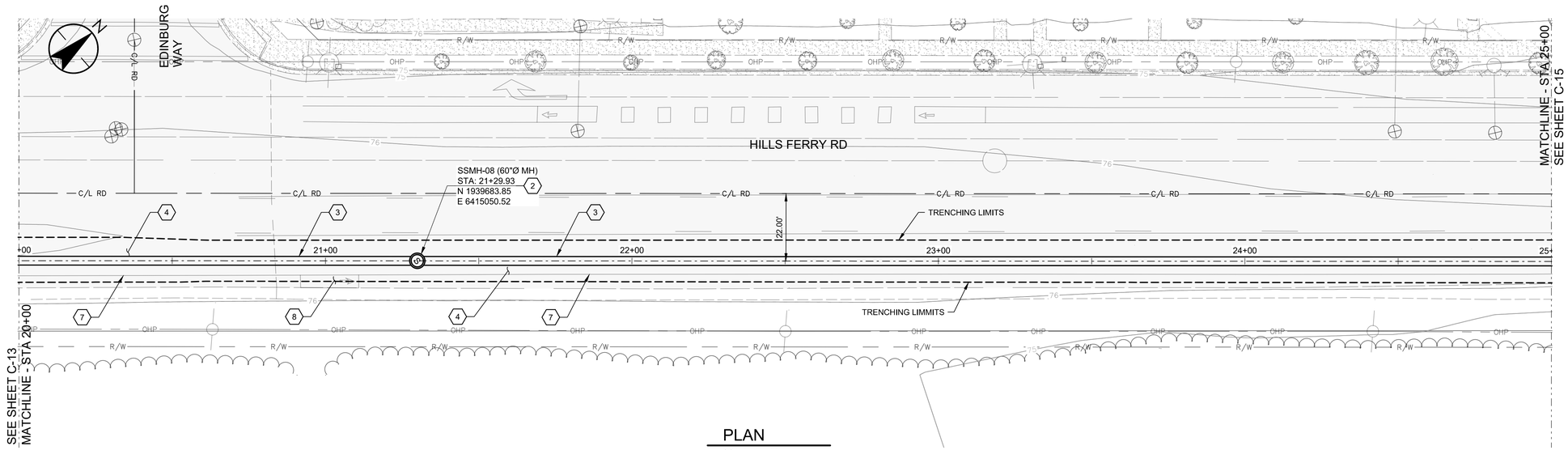
Revision

Sheet 10 of 30

Drawing No. C-13

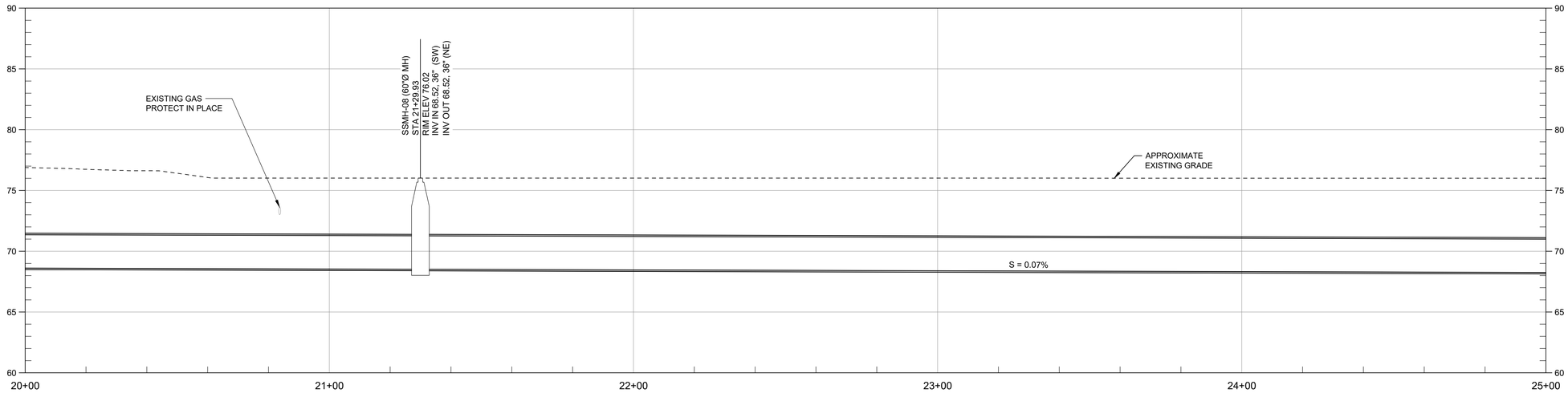
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES AND PROTECT IN PLACE ALL EXISTING UTILITIES NOT DESIGNATED FOR RELOCATION.

(#) CONSTRUCTION NOTES:

1. CONSTRUCT 72" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~YURETHANE LINE MANHOLE. SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
21. CONSTRUCT 24"x38" HERCP. SEE TRENCH SECTION DETAIL 7-C ON SHEET GC-02
22. CONSTRUCT 12" AWWA C-900 PVC STORM DRAIN FORCEMAIN. SEE TRENCH SECTION 5-J ON SHEET GC-02
23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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PHASE 2 DRAWING

Issuec — YYYY.MM.DD

Revision — By — Appd — YYYY.MM.DD

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Consultant

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Client/Project Logo

Client/Project
CITY OF NEWMAN

NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

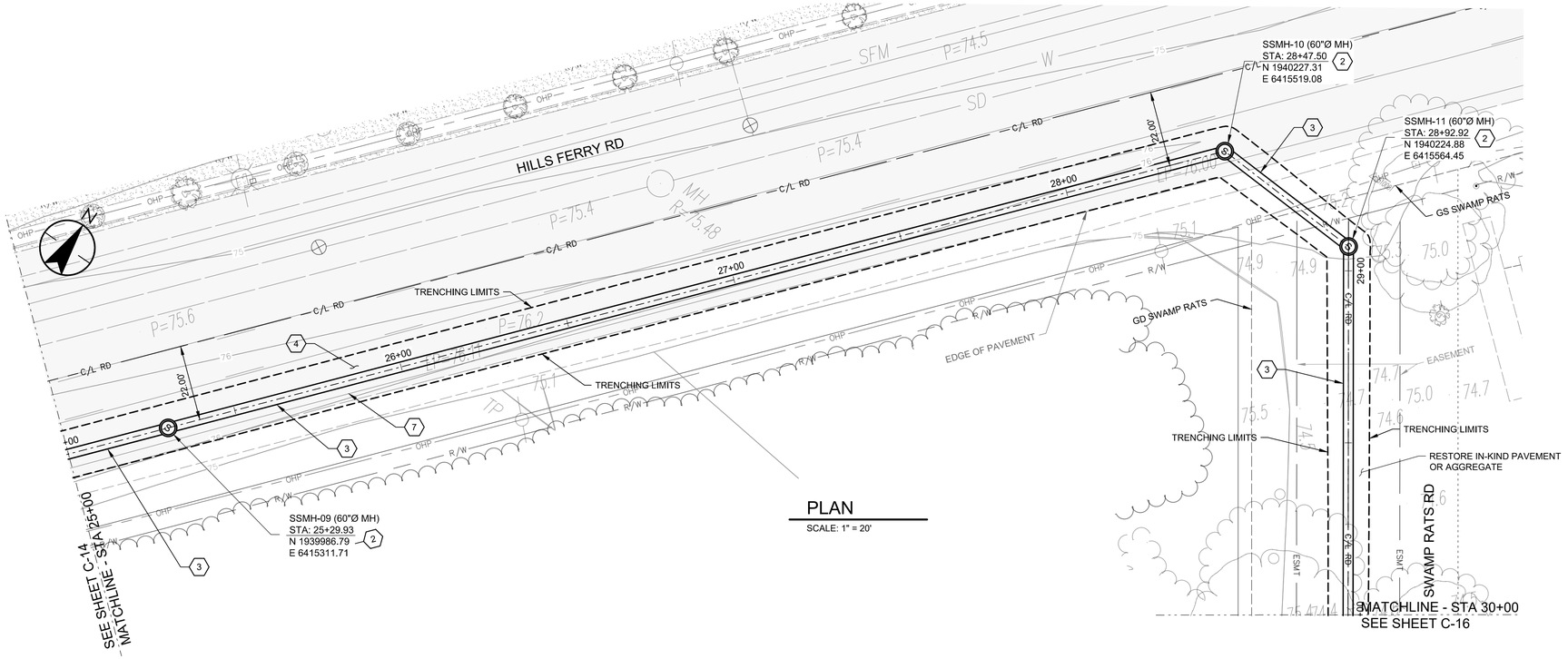
Title
36" SS TRUNKLINE
PLAN AND PROFILE
STA 20+00 TO STA 25+00

Project No. 184031401 — Scale

Revision — Sheet 11 of 30 — Drawing No. C-14

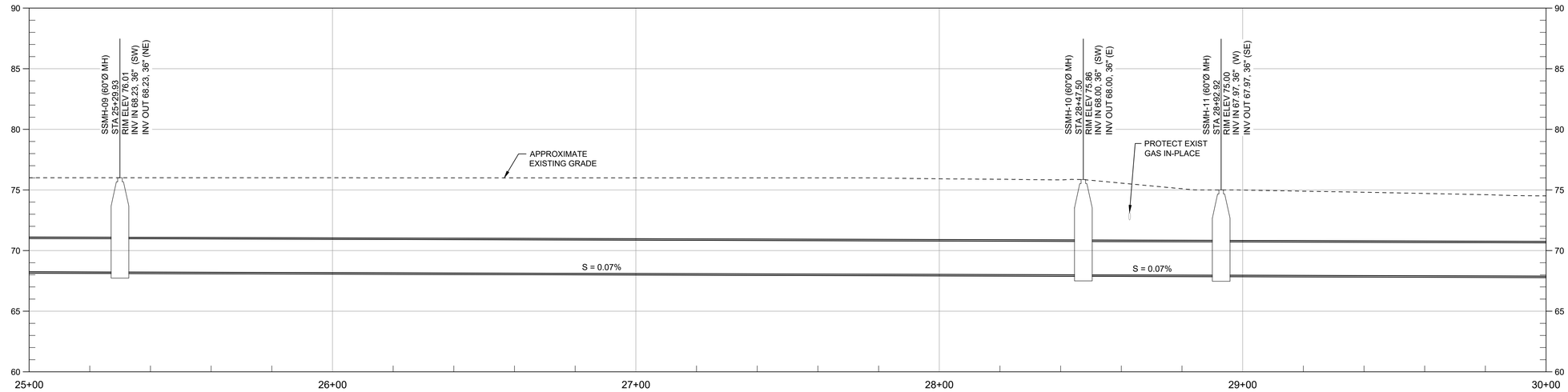
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2023.04.06 8:58:38 AM

ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES AND PROTECT IN PLACE ALL EXISTING UTILITIES NOT DESIGNATED FOR RELOCATION.

(#) CONSTRUCTION NOTES:

1. CONSTRUCT 72" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~YURETHANE LINE MANHOLE. SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
21. CONSTRUCT 24"x38" HERCP. SEE TRENCH SECTION DETAIL 7-C ON SHEET GC-02
22. CONSTRUCT 12" AWWA C-900 PVC STORM DRAIN FORCEMAIN. SEE TRENCH SECTION 5-J ON SHEET GC-02
23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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PHASE 2 DRAWING

Issued — .pd — YYYY.MM.DD

Revision — By — Appd — YYYY.MM.DD

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NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

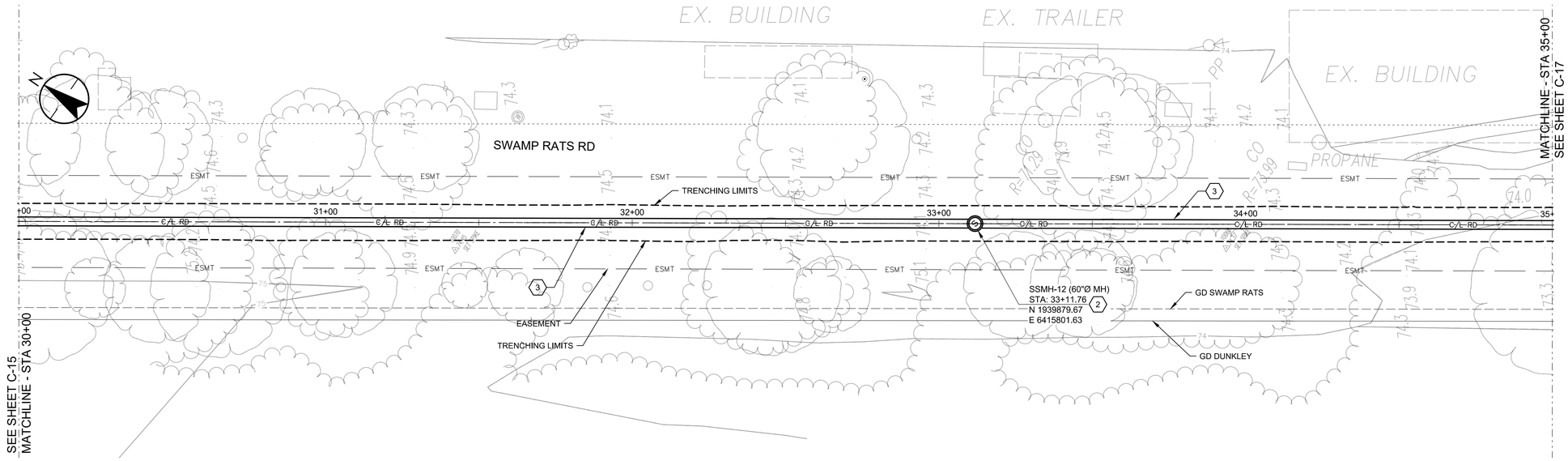
Title
36" SS TRUNKLINE
PLAN AND PROFILE
STA 24+50 TO STA 30+00

Project No. 184031401 — Scale

Revision — Sheet 12 of 30 — Drawing No. C-15

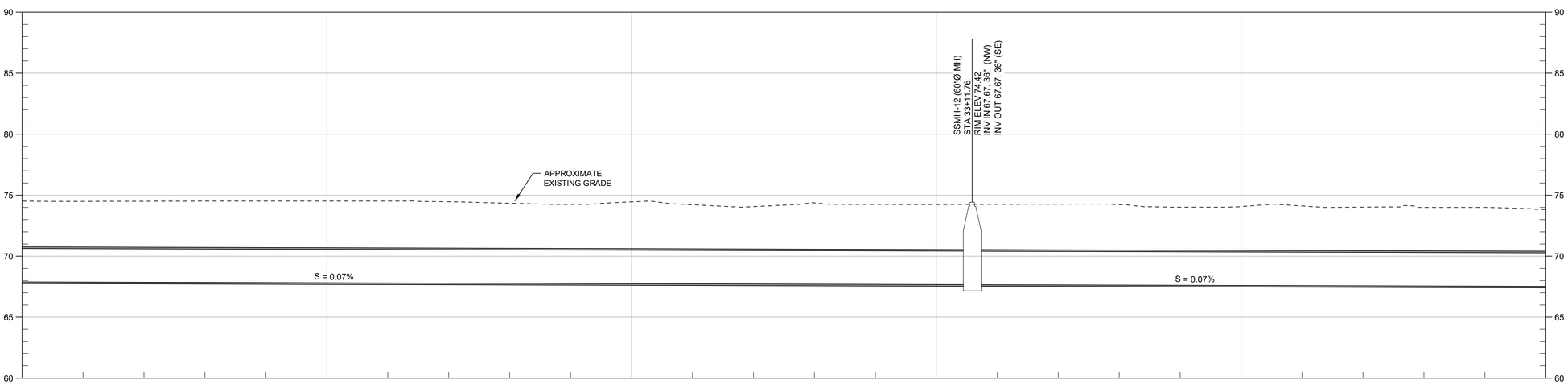
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES AND PROTECT IN PLACE ALL EXISTING UTILITIES NOT DESIGNATED FOR RELOCATION.

(#) CONSTRUCTION NOTES:

1. CONSTRUCT 72" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~URETHANE LINE MANHOLE SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
21. CONSTRUCT 24"x38" HERCP. SEE TRENCH SECTION DETAIL 7-C ON SHEET GC-02
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23. REMOVE EXISTING STORM DRAIN
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PHASE 2 DRAWING

Issued ipd YYYY.MM.DD

Revision By Appd YYYY.MM.DD

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Consultant

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Client/Project

CITY OF NEWMAN

NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF | RG Dwn. | FR Dsgn. | FR Chkd. | 2022.10.03 YYYY.MM.DD

Title

36" SS TRUNKLINE
PLAN AND PROFILE
STA 30+00 TO STA 35+00

Project No. 184031401

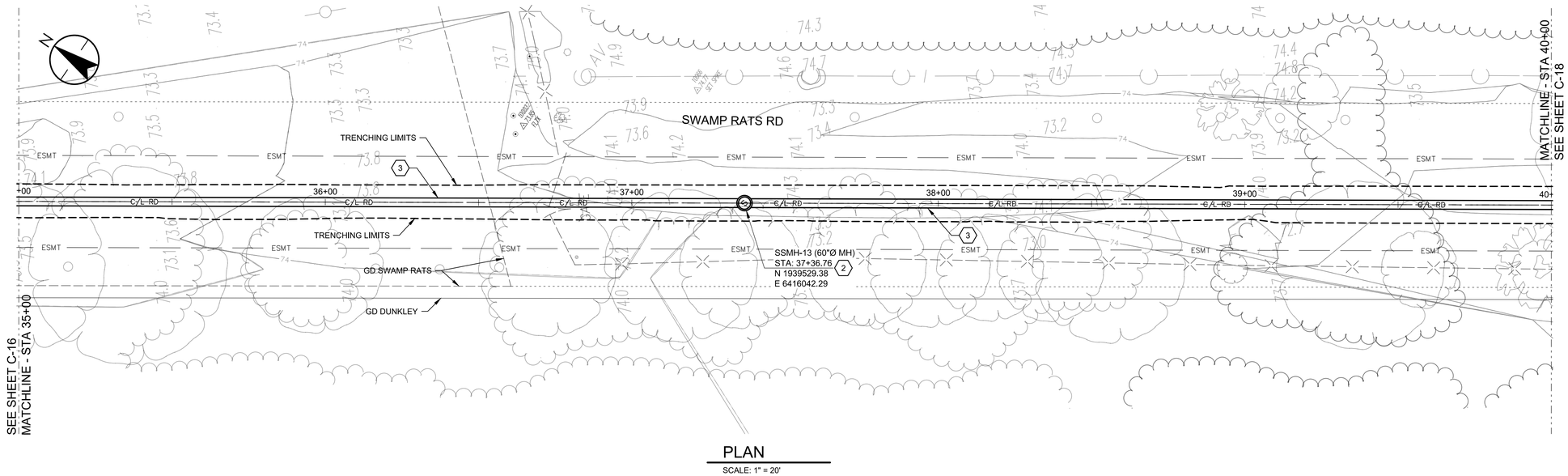
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Revision Sheet 13 of 30

Drawing No. C-16

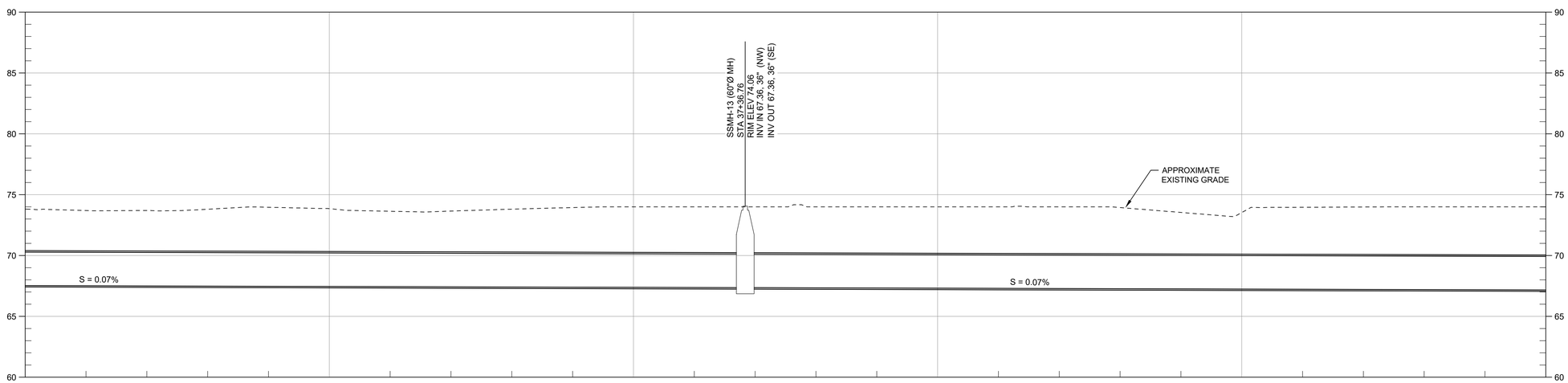
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

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(#) CONSTRUCTION NOTES:

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2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~URETHANE LINE MANHOLE. SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
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23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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PHASE 2

Issued DRAWING ppd YYYY.MM.DD

Revision By Appd YYYY.MM.DD

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NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

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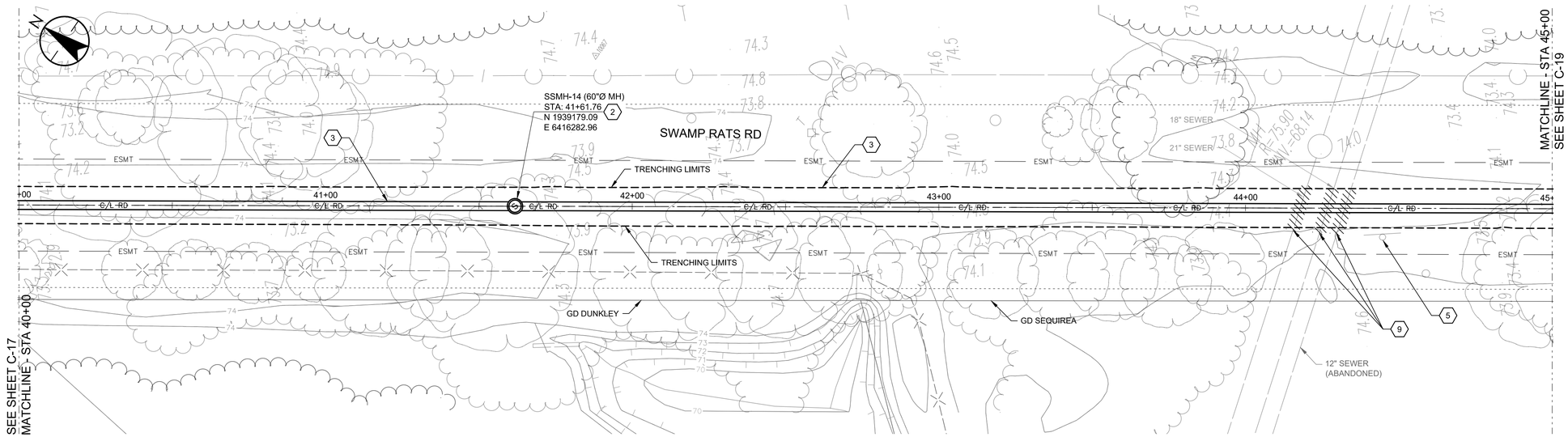
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36" SS TRUNKLINE
PLAN AND PROFILE
STA 35+00 TO STA 40+00

Project No. 184031401 | Scale

Revision | Sheet 14 of 30 | Drawing No. C-17

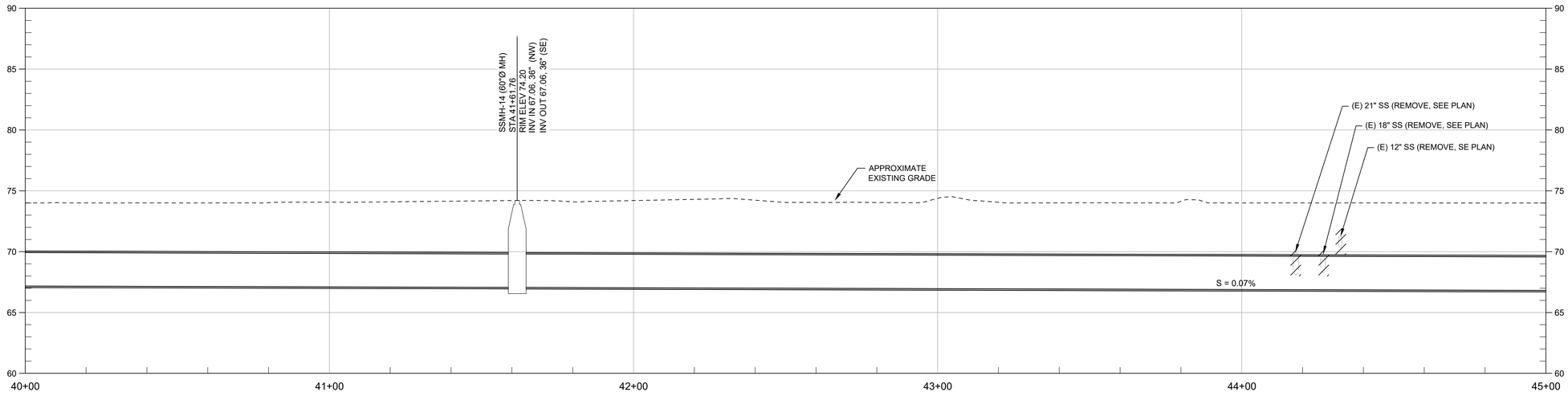
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

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3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
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7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
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10. ~~CONSTRUCT~~ NOT USED ~~URETHANE LINE MANHOLE SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
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15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
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23. REMOVE EXISTING STORM DRAIN
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PHASE 2 DRAWING

Issued — Appd — YYYY.MM.DD

Revision — By — Appd — YYYY.MM.DD

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Consultant

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NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

Title

36" SS TRUNKLINE
PLAN AND PROFILE
STA 40+00 TO STA 45+00

Project No. 184031401

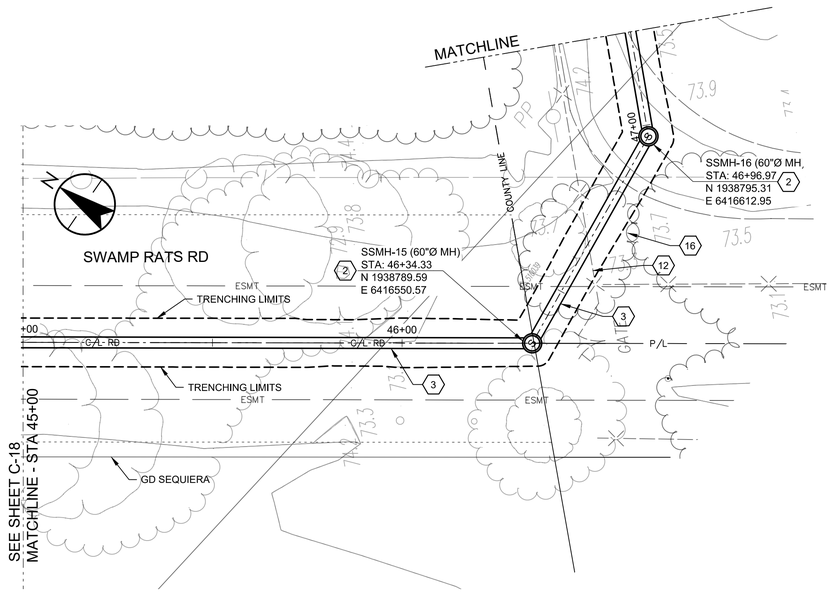
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Revision — Sheet 15 of 30

Drawing No. C-18

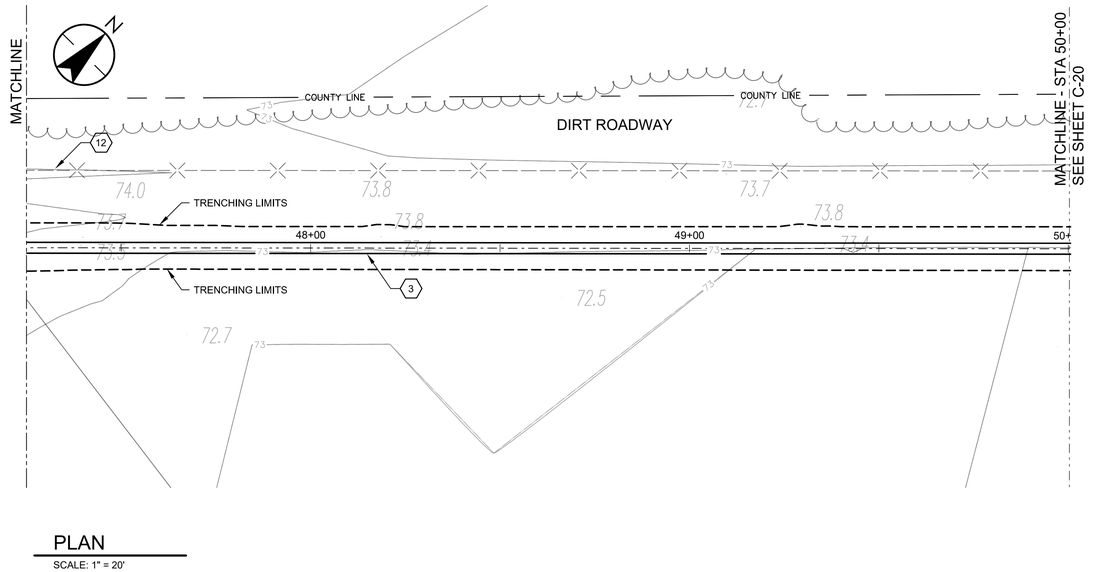
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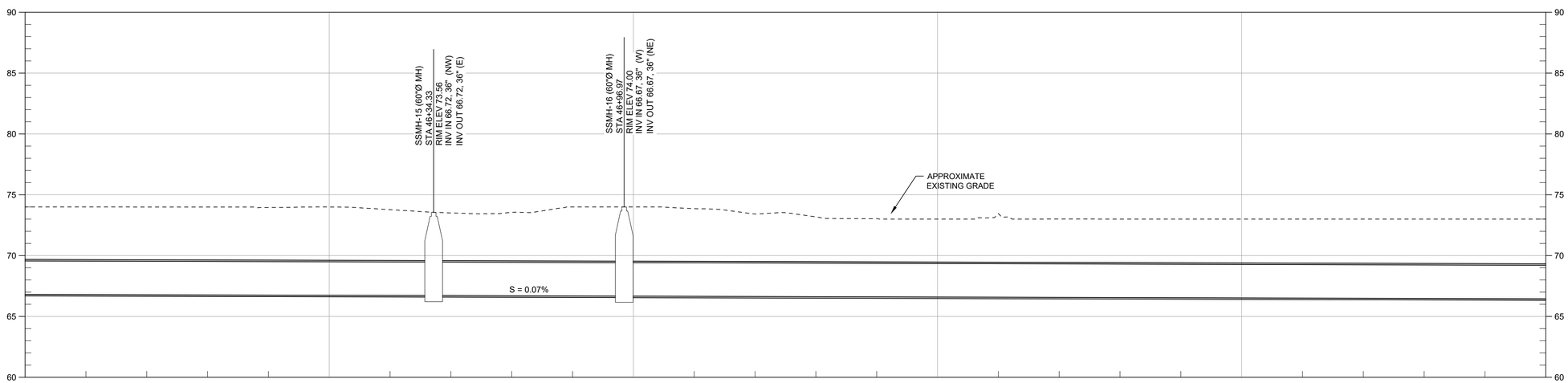
ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'





PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES AND PROTECT IN PLACE ALL EXISTING UTILITIES NOT DESIGNATED FOR RELOCATION.

(#) CONSTRUCTION NOTES:

1. CONSTRUCT 72" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~URETHANE LINE MANHOLE SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
21. CONSTRUCT 24"x38" HERCP. SEE TRENCH SECTION DETAIL 7-C ON SHEET GC-02
22. CONSTRUCT 12" AWWA C-900 PVC STORM DRAIN FORCEMAIN. SEE TRENCH SECTION 5-J ON SHEET GC-02
23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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PHASE 2 DRAWING

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Consultant

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Client/Project
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NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

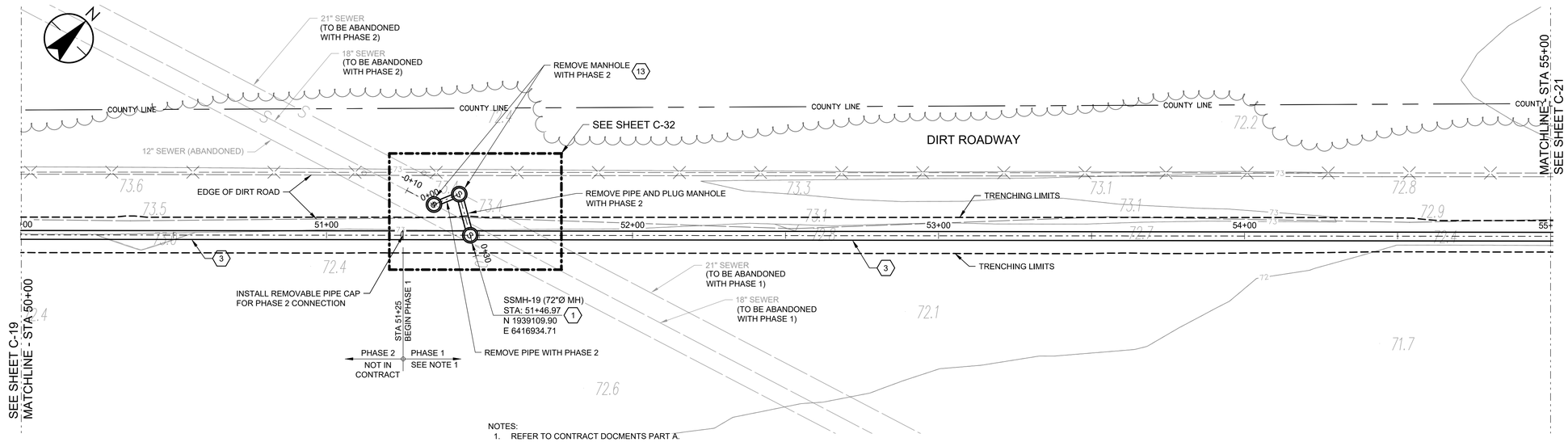
Title
36" SS TRUNKLINE
PLAN AND PROFILE
STA 45+00 TO STA 50+00

Project No. 184031401 — Scale

Revision — Sheet 16 of 30 — Drawing No. C-19

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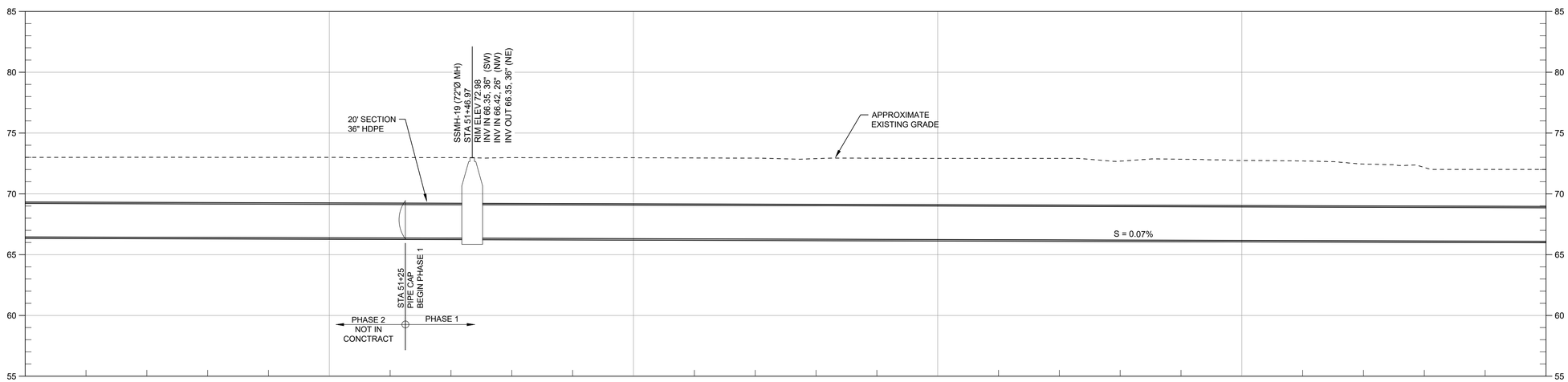
ORIGINAL SHEET - ANSI D



NOTES:
1. REFER TO CONTRACT DOCMENTS PART A.

PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

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2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~YURETHANE LINE MANHOLE. SEE DETAIL 6~~
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
21. CONSTRUCT 24"x38" HERCP. SEE TRENCH SECTION DETAIL 7-C ON SHEET GC-02
22. CONSTRUCT 12" AWWA C-900 PVC STORM DRAIN FORCEMAIN. SEE TRENCH SECTION 5-J ON SHEET GC-02
23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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PHASE 1 DRAWING

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GABRIEL I. ARAMOUNI
No.55307
Exp.12/31/22
CIVIL
STATE OF CALIFORNIA

Consultant

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CITY OF NEWMAN

NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

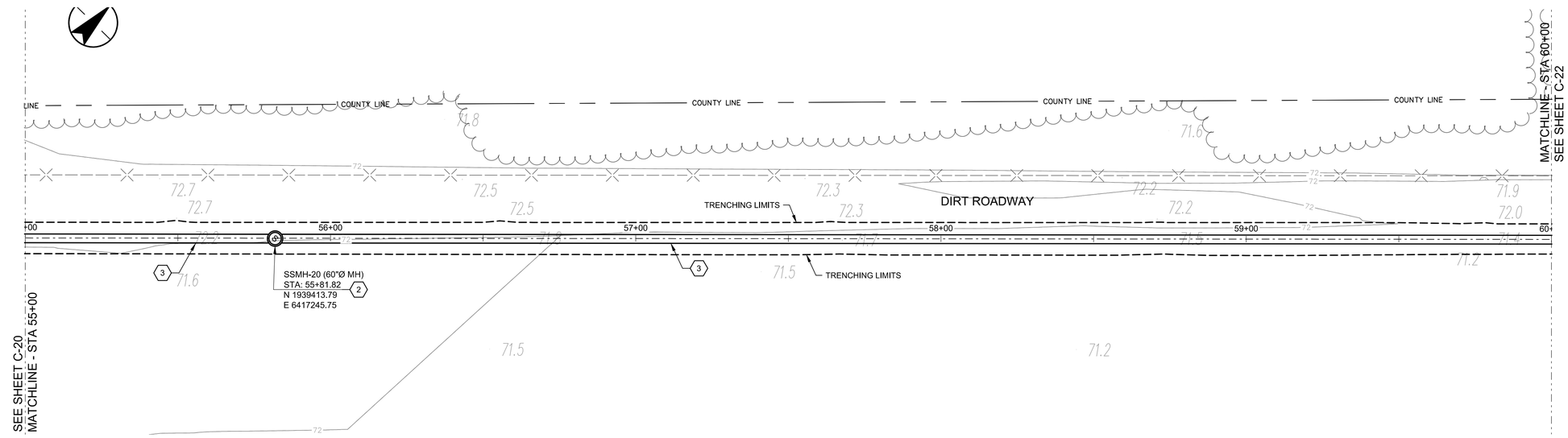
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Title
36" SS TRUNKLINE
PLAN AND PROFILE
STA 50+00 TO STA 55+00

Project No. 184031401
Scale
Revision
Sheet 17 of 30
Drawing No. C-20

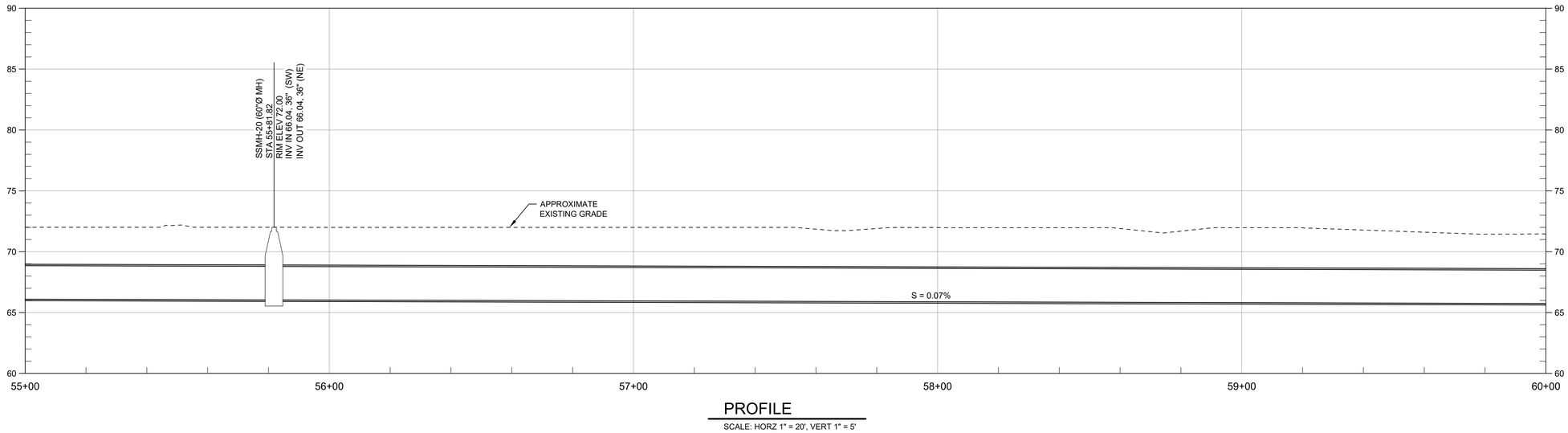
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

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2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~URETHANE LINE MANHOLE SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
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23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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Consultant

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Client/Project
CITY OF NEWMAN

NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

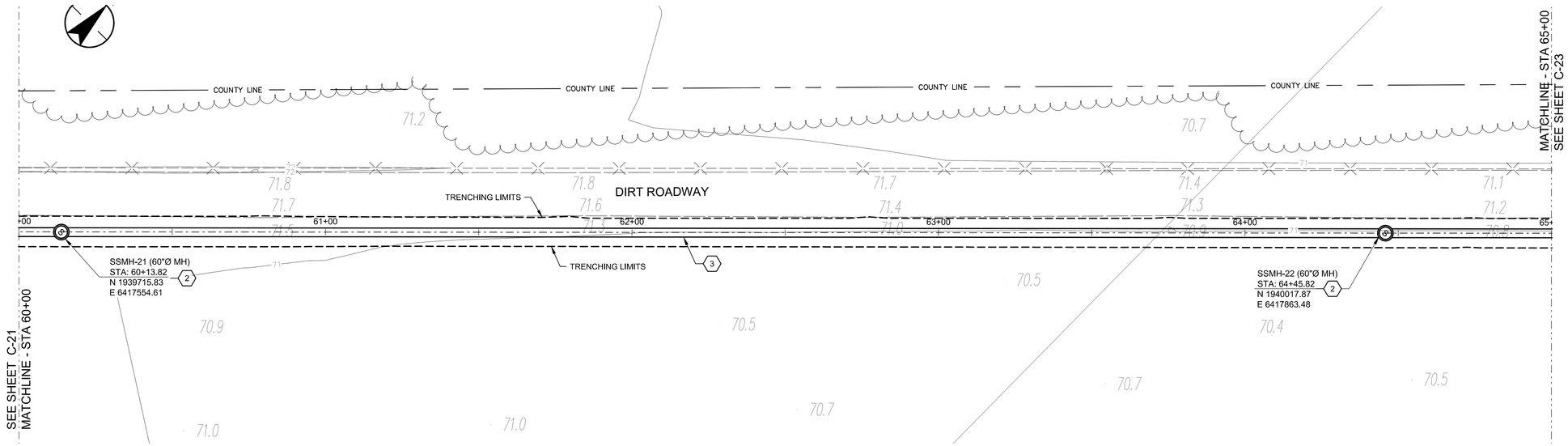
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Title
36" SS TRUNKLINE
PLAN AND PROFILE
STA 55+00 TO STA 60+00

Project No. 184031401
Scale
Revision
Sheet 18 of 30
Drawing No. C-21

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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'

PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

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(#) CONSTRUCTION NOTES:

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2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~YURETHANE LINE MANHOLE SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
21. CONSTRUCT 24"x38" HERCP. SEE TRENCH SECTION DETAIL 7-C ON SHEET GC-02
22. CONSTRUCT 12" AWWA C-900 PVC STORM DRAIN FORCEMAIN. SEE TRENCH SECTION 5-J ON SHEET GC-02
23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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NEWMAN, CALIFORNIA

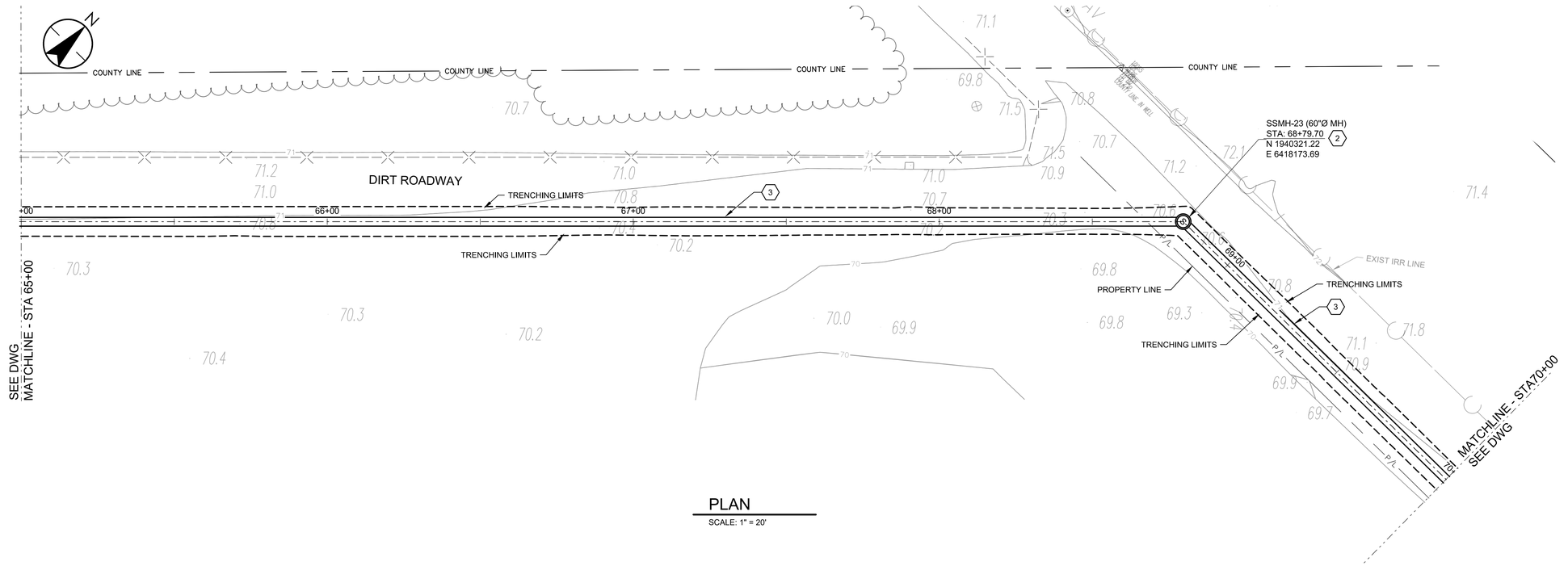
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Title
36" SS TRUNKLINE
PLAN AND PROFILE
STA 60+50 TO STA 65+00

Project No. 184031401
Scale
Revision
Sheet 19 of 30
Drawing No. C-22

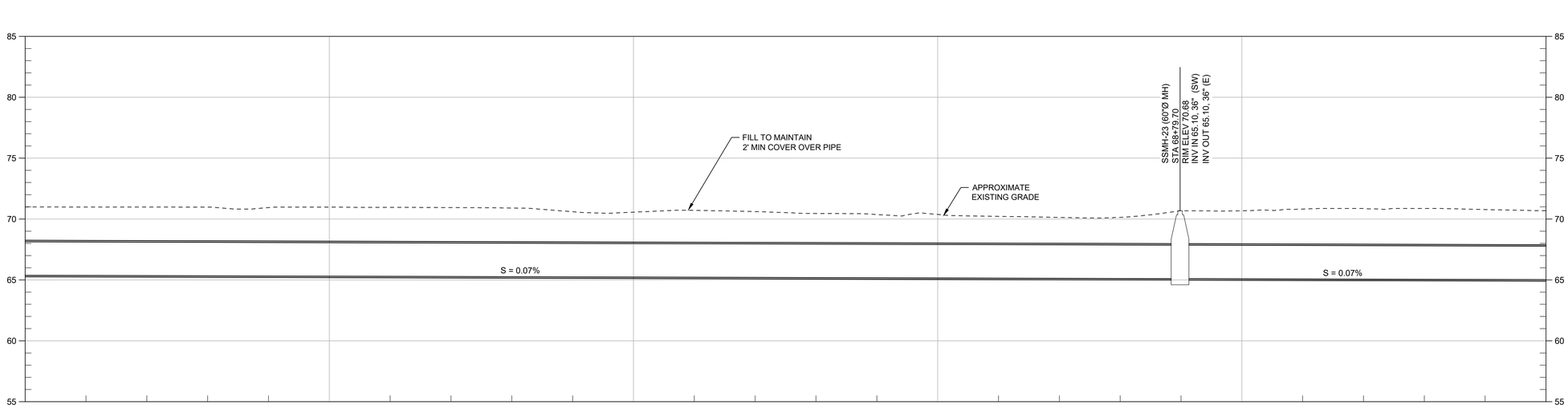
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

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3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
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Consultant

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NEWMAN, CALIFORNIA

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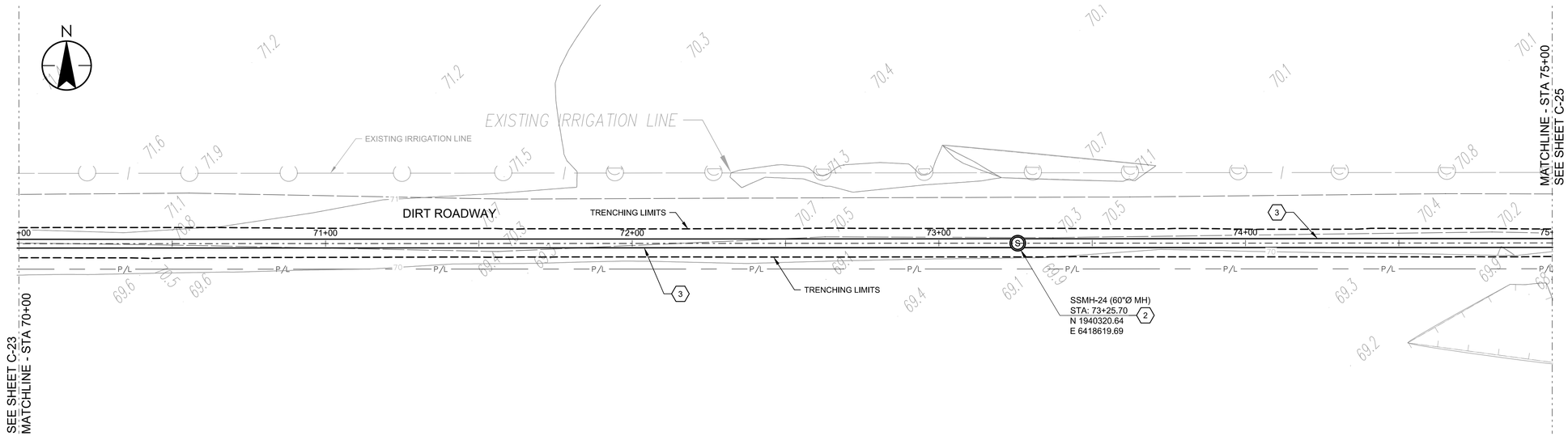
Title
36" SS TRUNKLINE
PLAN AND PROFILE
STA 65+00 TO STA 70+00

Project No. 184031401 — Scale

Revision — Sheet 20 of 30 — Drawing No. C-23

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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'

PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

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3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~YURETHANE LINE MANHOLE. SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
21. CONSTRUCT 24"x38" HERCP. SEE TRENCH SECTION DETAIL 7-C ON SHEET GC-02
22. CONSTRUCT 12" AWWA C-900 PVC STORM DRAIN FORCEMAIN. SEE TRENCH SECTION 5-J ON SHEET GC-02
23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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PHASE 1 DRAWING

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Consultant

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Client/Project Logo

Client/Project
CITY OF NEWMAN

NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

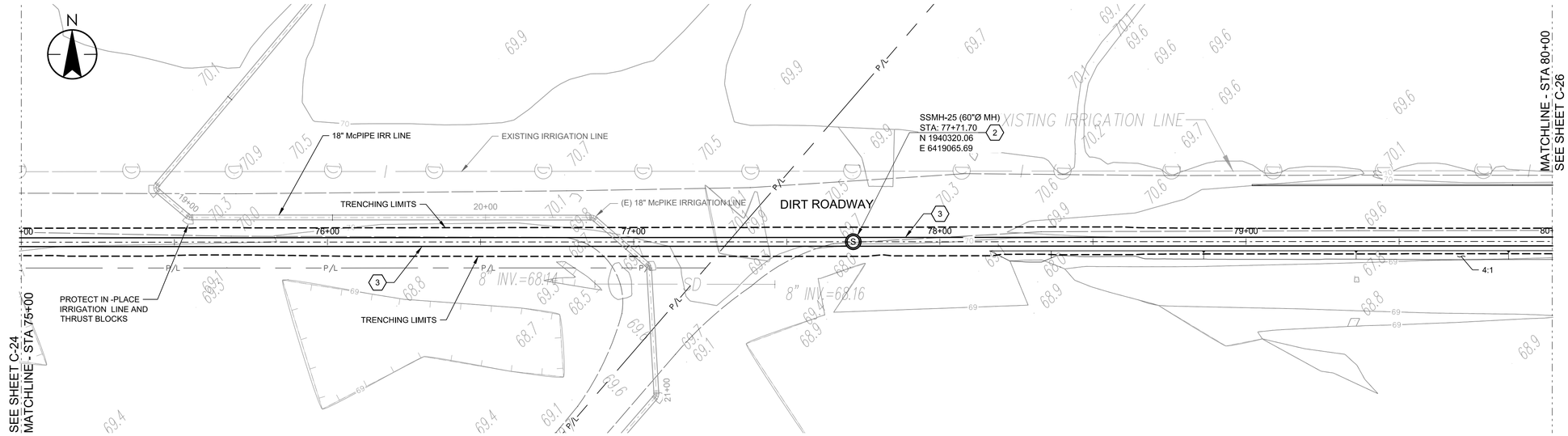
File Name: X31401-PLAN AND PROF — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

Title
36" SS TRUNKLINE
PLAN AND PROFILE
STA 70+00 TO STA 75+00

Project No. 184031401
Scale
Revision
Sheet 21 of 30
Drawing No. C-24

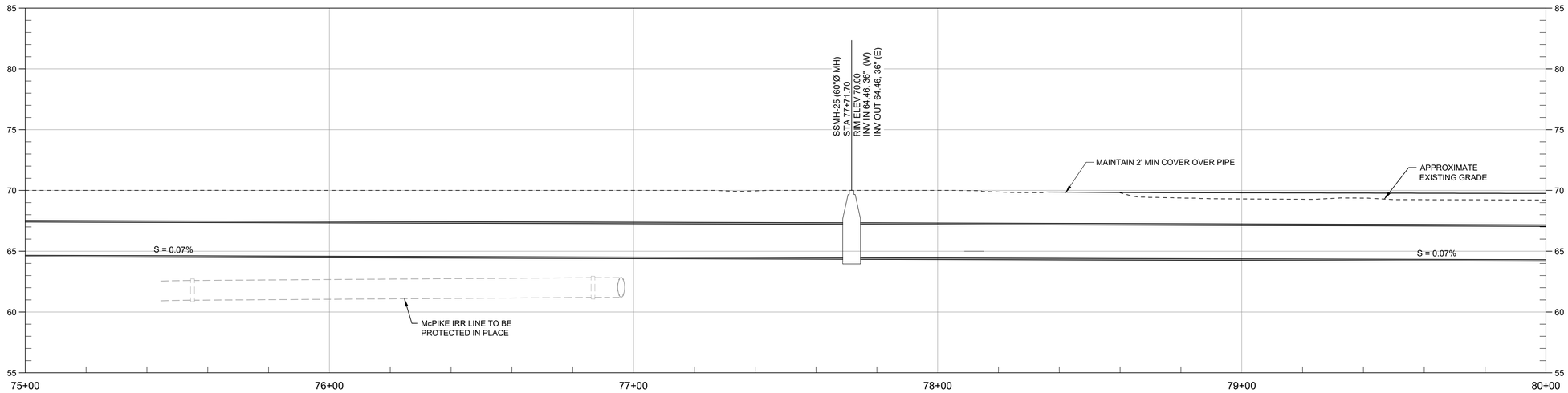
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES AND PROTECT IN PLACE ALL EXISTING UTILITIES NOT DESIGNATED FOR RELOCATION.

(#) CONSTRUCTION NOTES:

1. CONSTRUCT 72" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~YURETHANE LINE MANHOLE SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
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20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
21. CONSTRUCT 24"x38" HERCP. SEE TRENCH SECTION DETAIL 7-C ON SHEET GC-02
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23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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PHASE 1 DRAWING

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Consultant

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Client/Project
CITY OF NEWMAN

NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF | RG Dwn. | FR Dsgn. | FR Chkd. | 2022.10.03 YYYY.MM.DD

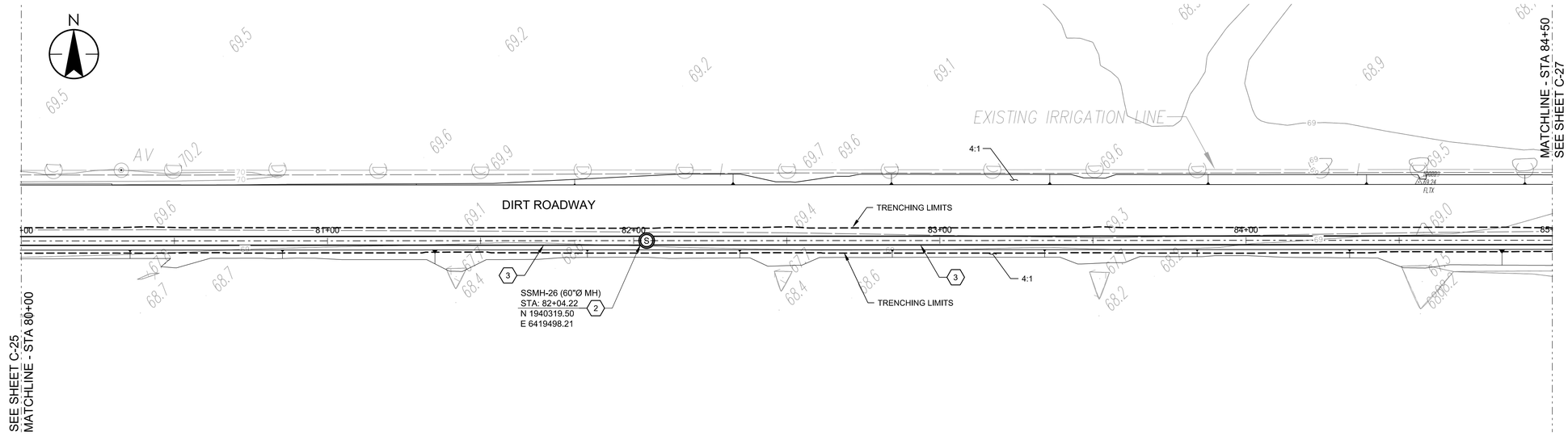
Title
36" SS TRUNKLINE / SITE GRADING PLAN AND PROFILE
STA 75+00 TO STA 80+00

Project No. 184031401 | Scale

Revision | Sheet 22 of 30 | Drawing No. C-25

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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'

PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES AND PROTECT IN PLACE ALL EXISTING UTILITIES NOT DESIGNATED FOR RELOCATION.

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3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~YURETHANE LINE MANHOLE SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
21. CONSTRUCT 24"x38" HERCP. SEE TRENCH SECTION DETAIL 7-C ON SHEET GC-02
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23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

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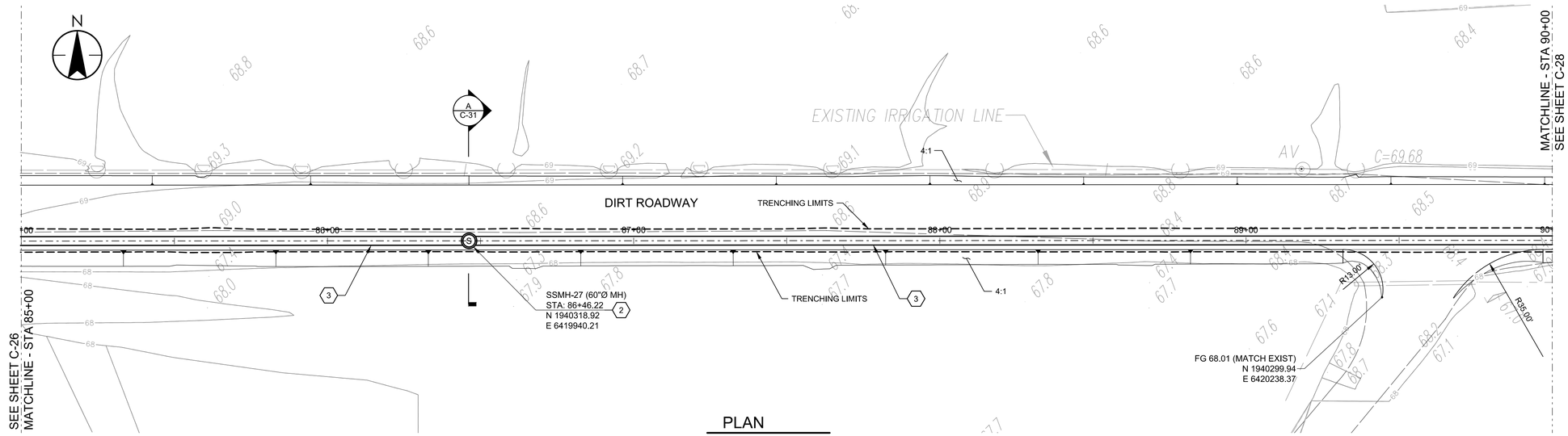
Title
36" SS TRUNKLINE / SITE GRADING PLAN AND PROFILE
STA 80+00 TO STA 85+00

Project No. 184031401 | Scale

Revision | Sheet 23 of 30 | Drawing No. C-26

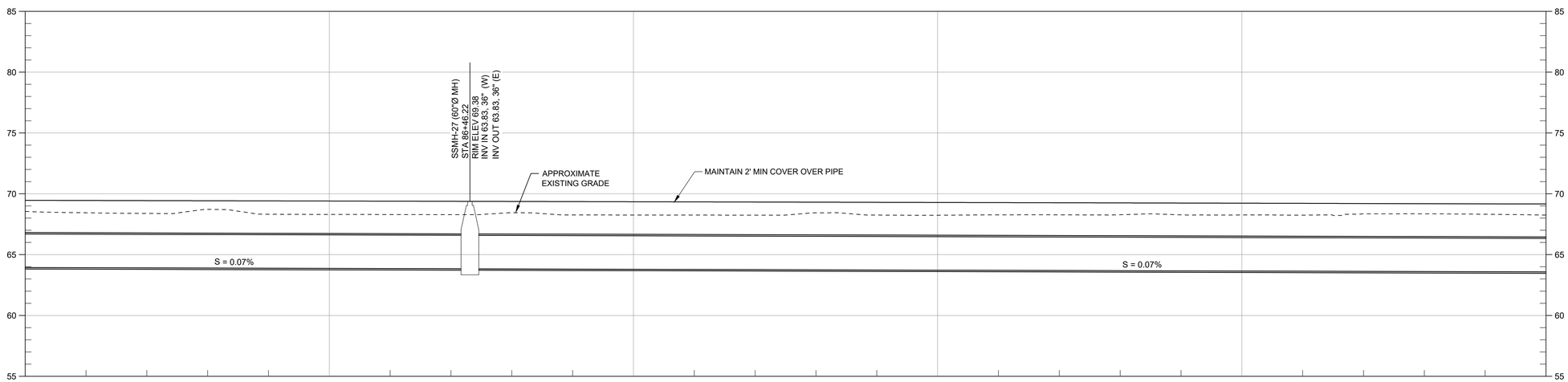
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES AND PROTECT IN PLACE ALL EXISTING UTILITIES NOT DESIGNATED FOR RELOCATION.

(#) CONSTRUCTION NOTES:

1. CONSTRUCT 72" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~URETHANE LINE MANHOLE. SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
19. CONSTRUCT D.I.P.S 24" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL SHEET GC-02
20. CONSTRUCT 72" DIAMETER STORM MANHOLE PER DETAIL 7-H ON SHEET GC-02
21. CONSTRUCT 24"x38" HERCP. SEE TRENCH SECTION DETAIL 7-C ON SHEET GC-02
22. CONSTRUCT 12" AWWA C-900 PVC STORM DRAIN FORCEMAIN. SEE TRENCH SECTION 5-J ON SHEET GC-02
23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

Title

36" SS TRUNKLINE / SITE GRADING PLAN AND PROFILE STA 85+00 TO STA 90+00

Project No. 184031401

Scale

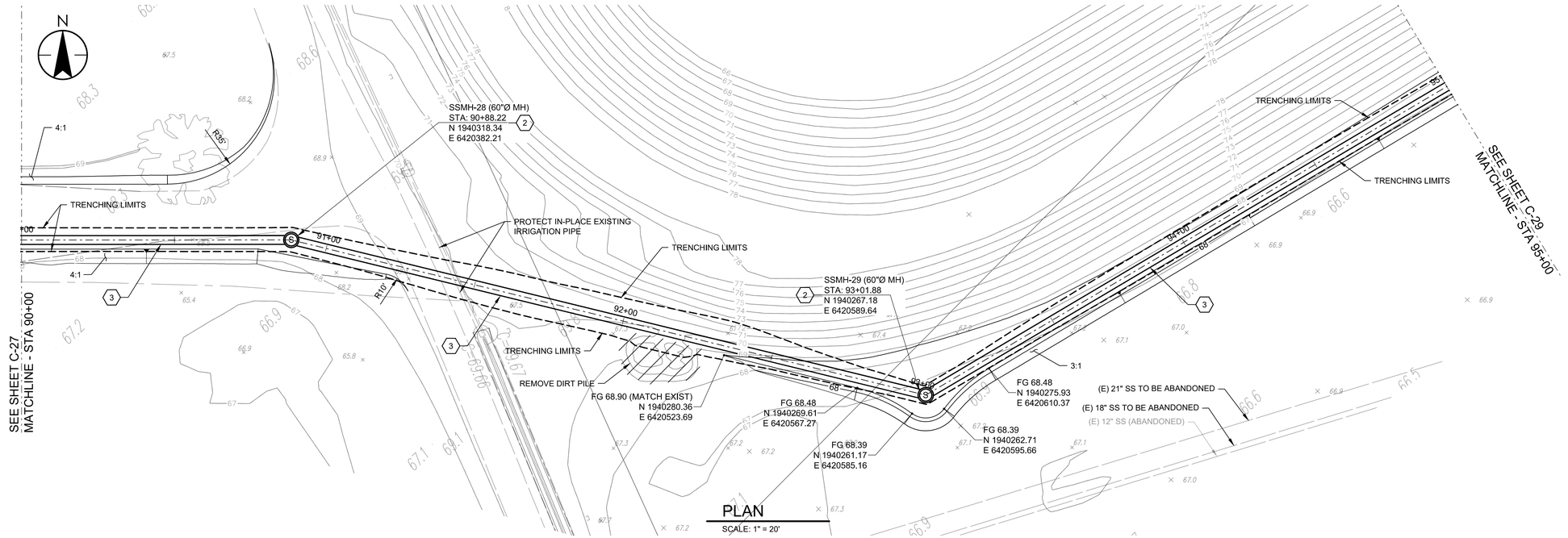
Revision

Sheet 24 of 30

Drawing No. C-27

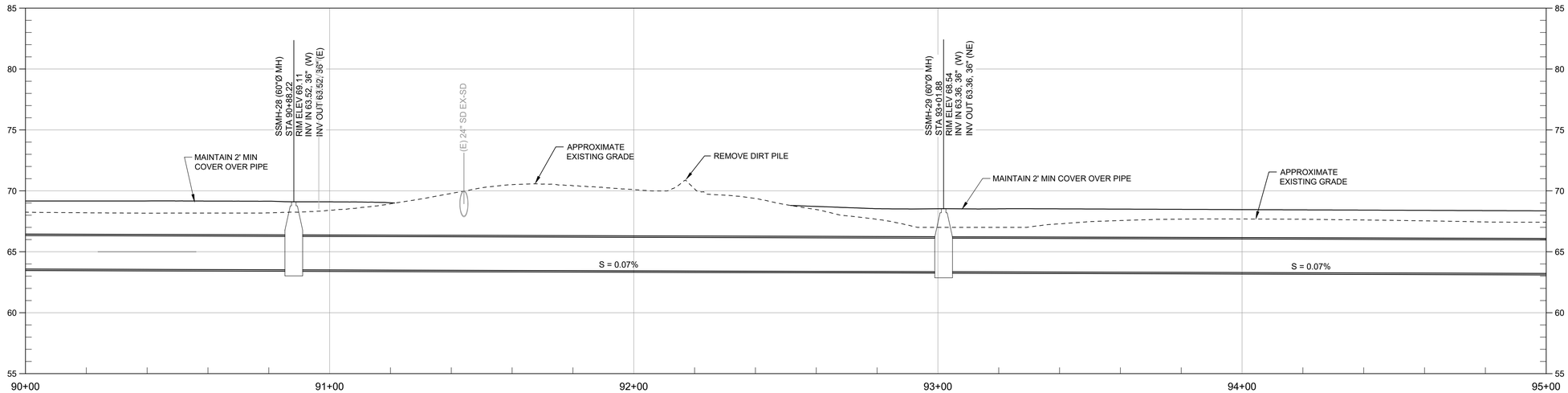
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

GENERAL NOTES:

1. IT IS THE CONTRACTOR RESPONSIBILITY TO VERIFY ALL LOCATIONS OF EXISTING UTILITIES AND PROTECT IN PLACE ALL EXISTING UTILITIES NOT DESIGNATED FOR RELOCATION.

(#) CONSTRUCTION NOTES:

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2. CONSTRUCT 60" DIAMETER POLYURETHANE-LINED MANHOLE. SEE DETAIL 6-A ON SHEET GC-02
3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
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9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~URETHANE LINE MANHOLE SEE DETAIL 6~~
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16. REMOVE EXISTING TREE
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24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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Consultant

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NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF | RG Dwn. | FR Dsgn. | FR Chkd. | 2022.10.03 YYYY.MM.DD

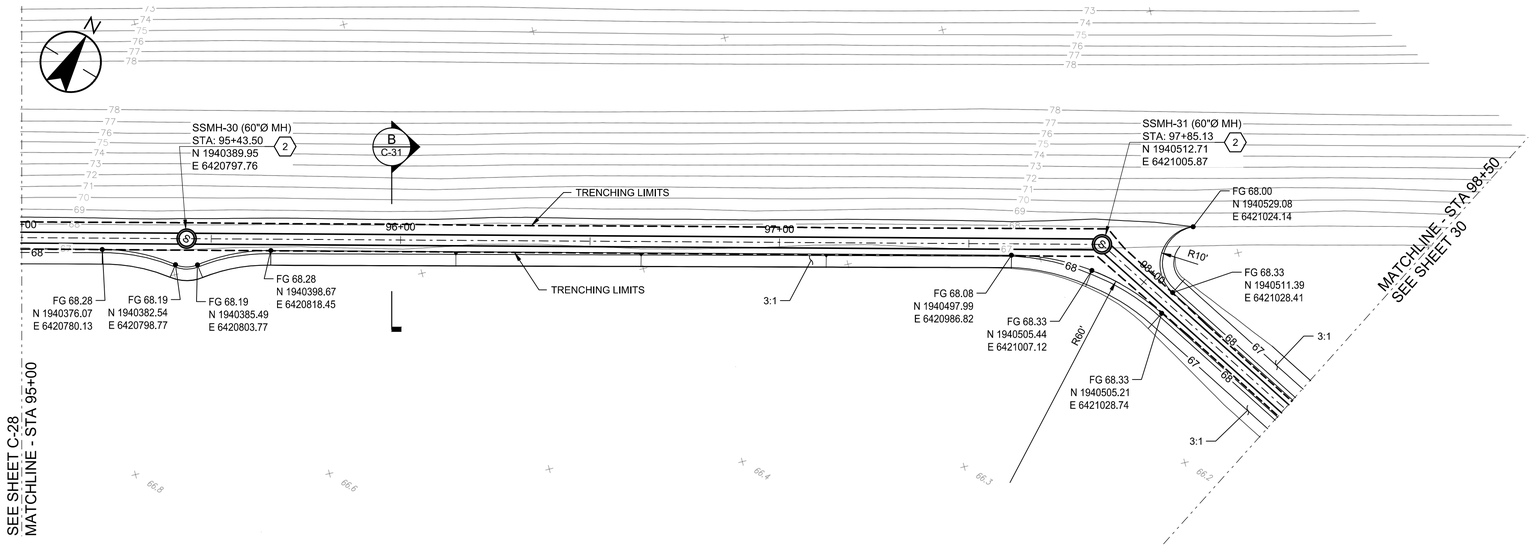
Title
36" SS TRUNKLINE / SITE GRADING PLAN AND PROFILE
STA 90+00 TO STA 95+00

Project No. 184031401 | Scale

Revision | Sheet 25 of 30 | Drawing No. C-28

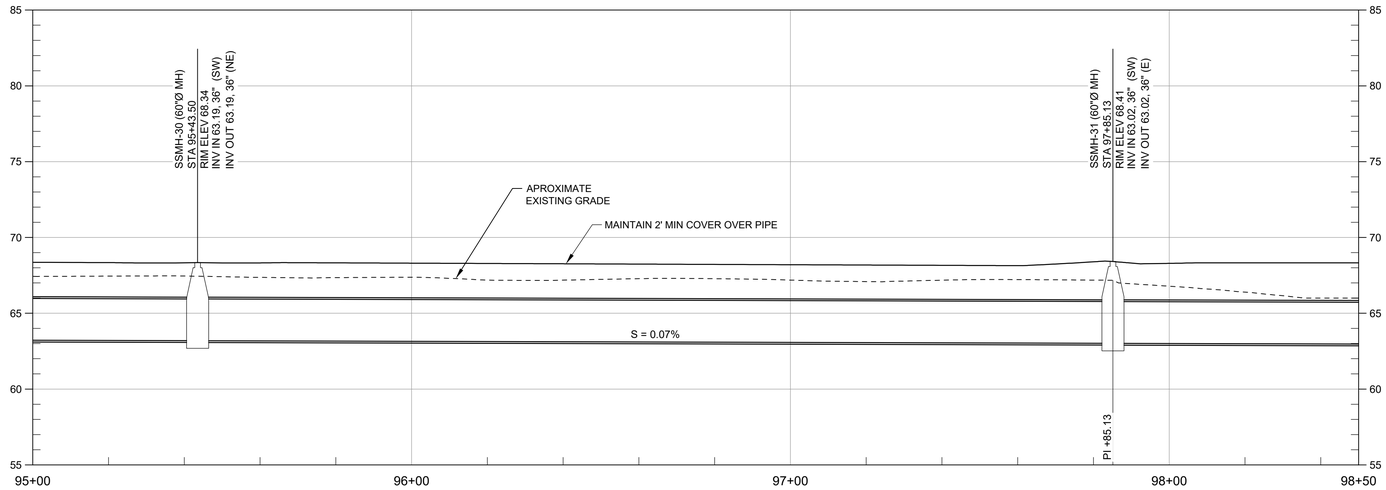
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

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22. CONSTRUCT 12" AWWA C-900 PVC STORM DRAIN FORCEMAIN. SEE TRENCH SECTION 5-J ON SHEET GC-02
23. REMOVE EXISTING STORM DRAIN
24. REMOVE EXISTING 12" PVC STORM DRAIN FORCE MAIN.

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CITY OF NEWMAN

NEWMAN INFLUENT TRUNK SEWER

NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

Title

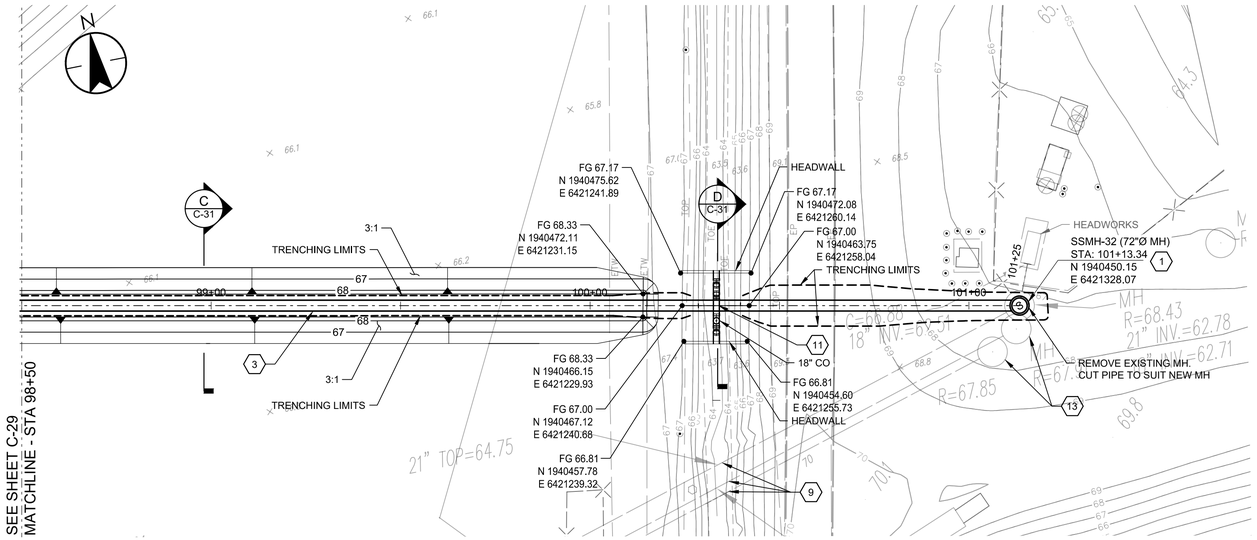
36" SS TRUNKLINE / SITE GRADING PLAN AND PROFILE STA 95+00 TO STA 98+50

Project No. 184031401 — Scale

Revision — Sheet 26 of 30 — Drawing No. C-29

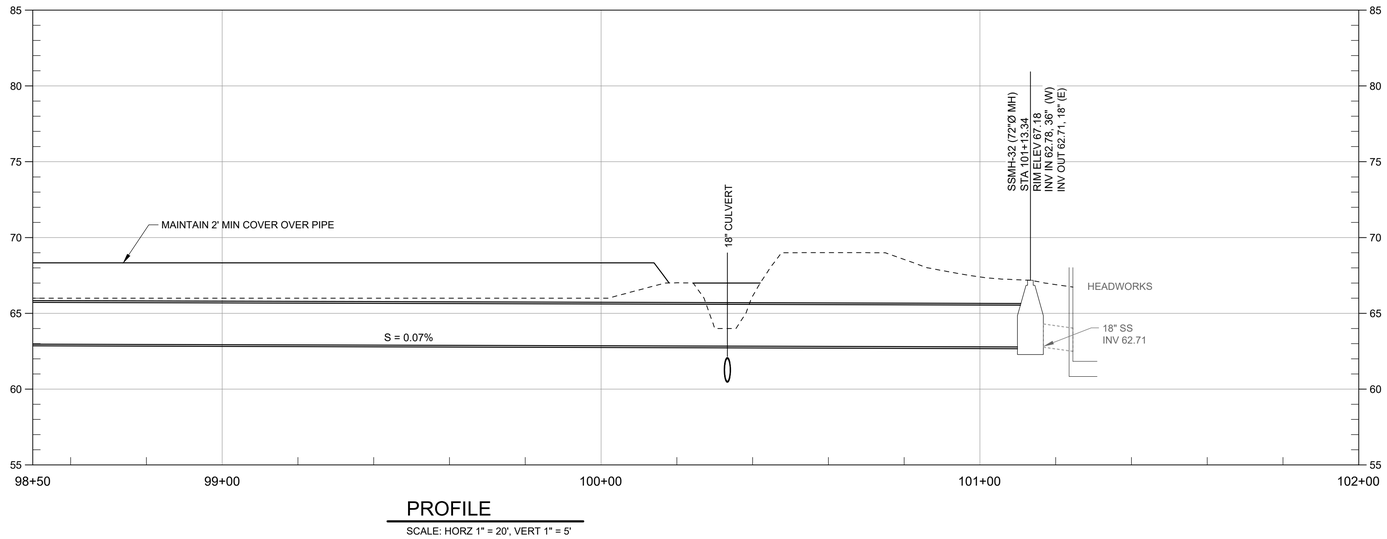
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 20', VERT 1" = 5'

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3. CONSTRUCT I.P.S 36" DR26 HDPE PIPE. SEE TRENCH DETAIL SHEET GC-01
4. REMOVE AND REPLACE ASPHALT PAVING PER DETAIL 6-H ON SHEET GC-02
5. REMOVE AND RESET TRAFFIC SIGNS
6. REPLACE PAVEMENT MARKINGS IN KIND.
7. REPLACE SOLID WHITE LINE (50 MIL POLYUREA)
8. REPLACE BICYCLE LANE MARKING IN KIND
9. REMOVE EXISTING SEWER PIPE AND RE-GRADE DITCH (INSTALL PIPE PLUG PER DETAIL 2/TYP ON SHEET GC-02)
10. ~~CONSTRUCT~~ NOT USED ~~YURETHANE LINE MANHOLE. SEE DETAIL 6~~ 2
11. CONSTRUCT CMP CULVERT AND HEADWALLS, SEE DETAIL ON SHEET C-31
12. REMOVE AND RESET EXISTING FENCE
13. REMOVE EXISTING MANHOLE (INSTALL PLUG PER DETAIL)
14. REPLACE DOUBLE YELLOW LINE 50 MILL POLYUREA AND RAISED PAVEMENT MARKER AT THE SAME LOCATION
15. ~~CONSTRUCT~~ NOT USED ~~SEE SHEET C-33~~
16. REMOVE EXISTING TREE
17. CONSTRUCT 72" FLAT TOP CONCRETE GATED MANHOLE. SEE SHEET GC-03
18. CONSTRUCT D.I.P.S 18" DR 26 HDPE SANITARY SEWER PIPE. SEE TRENCH DETAIL GC-02
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Title

36" SS TRUNKLINE / SITE GRADING PLAN AND PROFILE
STA 98-50 TO STA 101+00

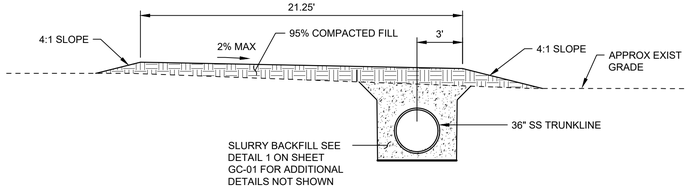
Project No. 184031401 — Scale SCALE

Revision — Sheet 27 of 30 — Drawing No. C-30

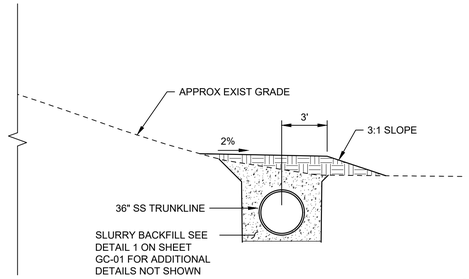
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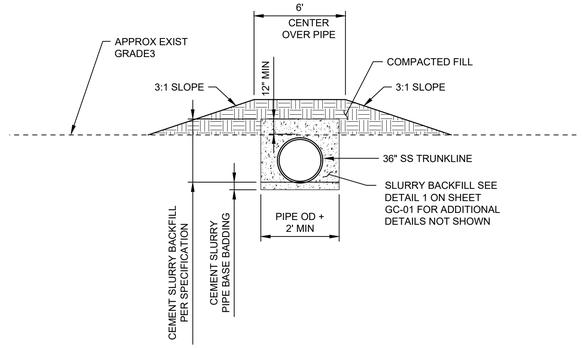
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SEE SHEET C-25 THROUGH SHEET C-30 FOR FINISH GRADING



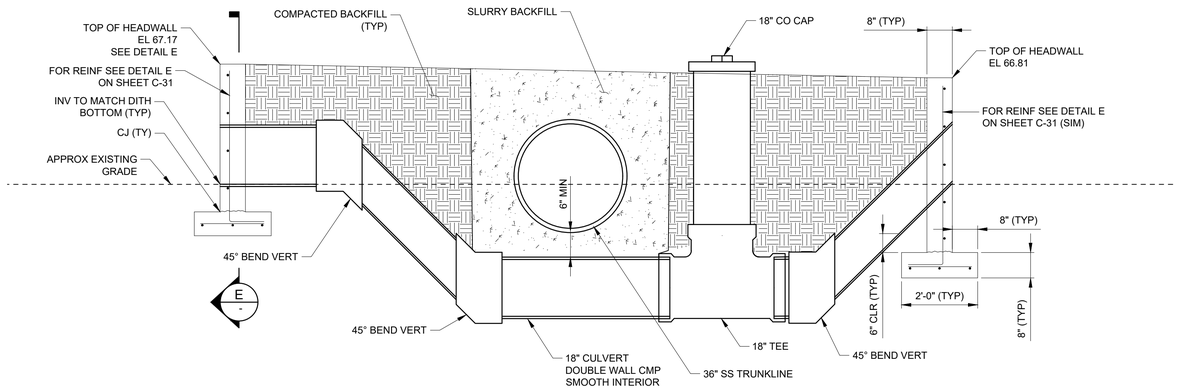
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SCALE: 1" = 5'



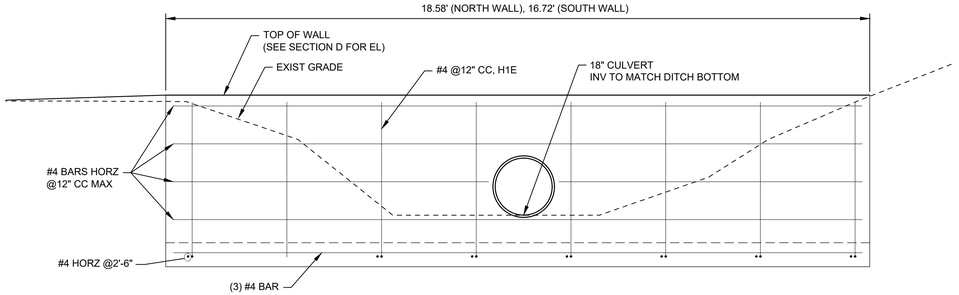
B C-29 SECTION
SCALE: 1" = 5'



C C-30 SECTION
SCALE: 1" = 5'



D C-30 SECTION
SCALE: 1" = 2'



E - HEADWALL DETAIL
SCALE: 1" = 2'

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NEWMAN, CALIFORNIA

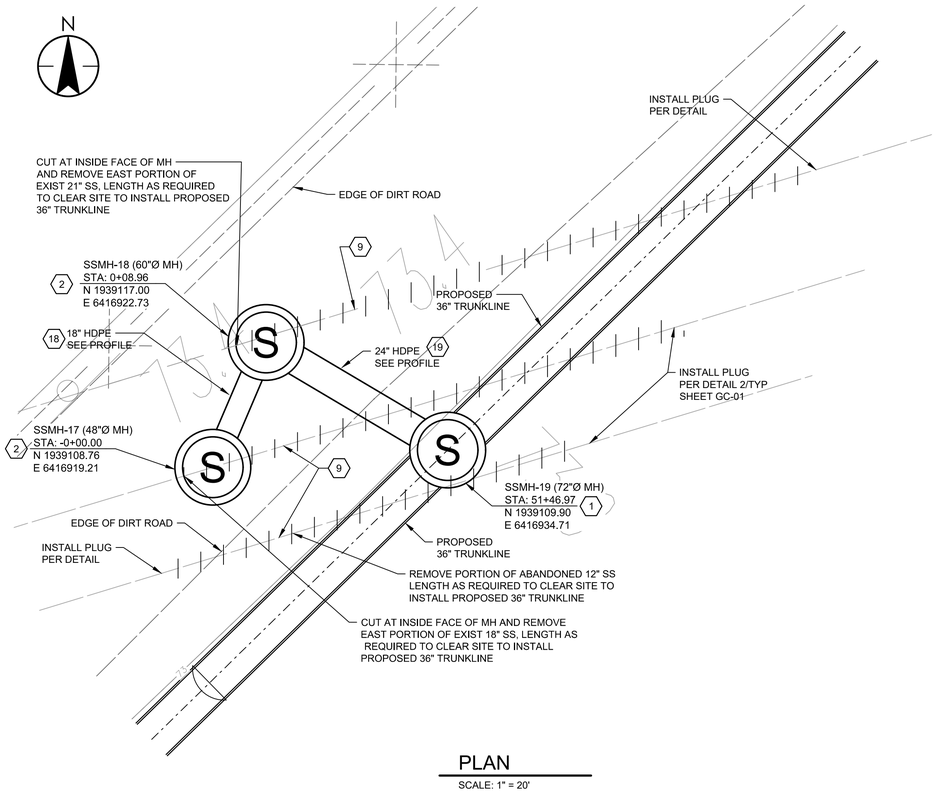
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Title
SECTIONS AND DETAILS

Project No. 184031401
Scale
Revision
Sheet 28 of 30
Drawing No. C-31

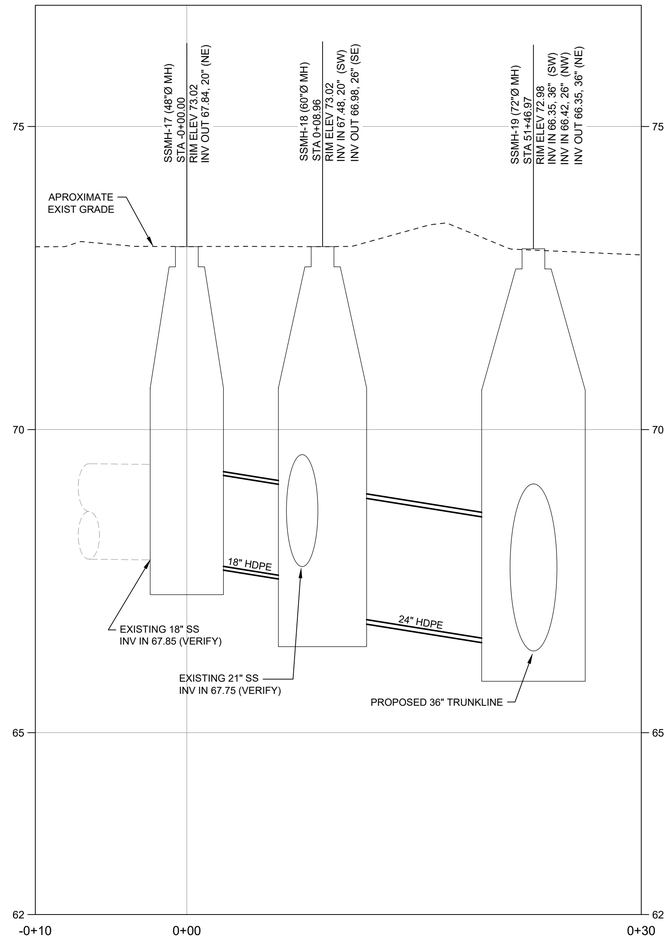
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



PROFILE

SCALE: HORZ 1" = 5', VERT 2" = 5'

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NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

Title

36" SS TRUNKLINE
PLAN AND PROFILE
DETAIL

Project No. 184031401

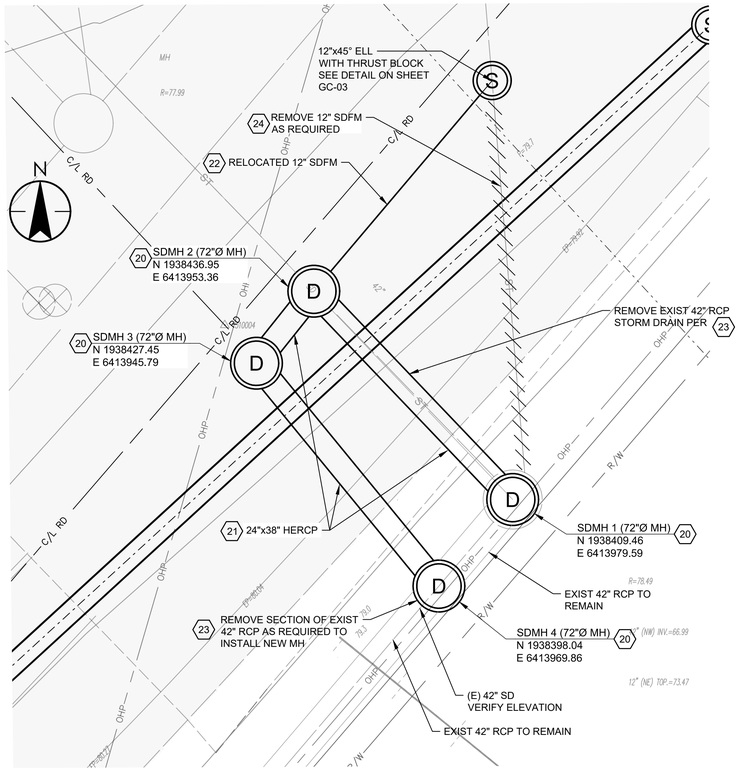
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Revision — Sheet 29 of 30

Drawing No. C-32

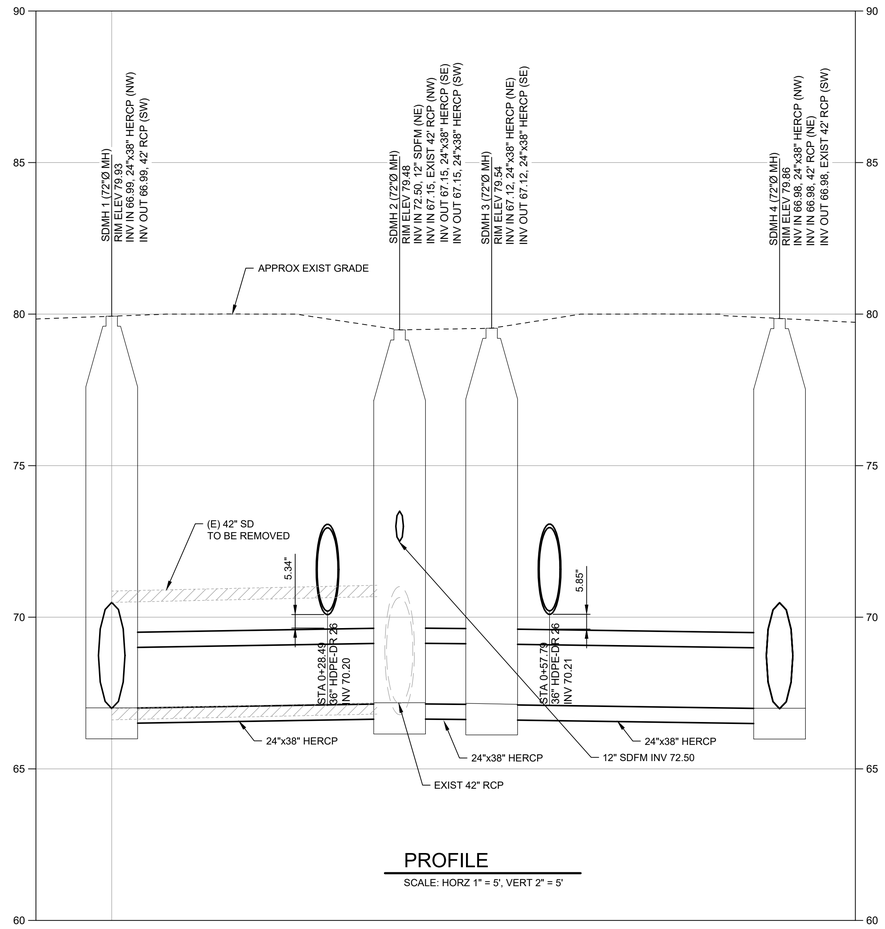
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ORIGINAL SHEET - ANSI D



PLAN

SCALE: 1" = 20'



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PHASE 2

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NEWMAN, CALIFORNIA

File Name: X31401-PLAN AND PROF — RG Dwn. — FR Dsgn. — FR Chkd. — 2022.10.03 YYYY.MM.DD

Title
36" SS TRUNKLINE
PLAN AND PROFILE
DETAIL

Project No. 184031401 — Scale

Revision — Sheet 30 of 30 — Drawing No. C-33

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ORIGINAL SHEET - ANSI D

CalEEMod Results

B

APPENDIX

Newman Sewer Trunk Construction Emissions - San Joaquin Valley Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Newman Sewer Trunk Construction Emissions

San Joaquin Valley Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	28.80	1000sqft	0.66	28,800.00	0
Other Non-Asphalt Surfaces	68.60	1000sqft	1.57	68,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 5165-2878=2287

2287x30=68610

Construction Phase - Per City Consultant Email 122922

Off-road Equipment -

Off-road Equipment - Per City Consultant EMail 122922

Off-road Equipment - Per City Consultant Email 122922

Off-road Equipment - Per City Consultant Email 122922

Off-road Equipment - Per City Consultant Email 122922

Trips and VMT - No building construction
Offloading spoils to WWTRF
Hauling Trips to match vendor default

Demolition -

Newman Sewer Trunk Construction Emissions - San Joaquin Valley Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading - per City Consultant EMail 122922

Construction Off-road Equipment Mitigation - Add clean engines and dust control per SJVAPCD Rule 9510 and Reg VIII

Table Name	Column Name	Default Value	New Value
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstructionPhase	NumDays	6.00	70.00
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tblGrading	MaterialImported	0.00	2,600.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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2.0 Emissions Summary

Newman Sewer Trunk Construction Emissions - San Joaquin Valley Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.1502	1.2514	1.0109	2.4300e-003	0.3182	0.0498	0.3680	0.1299	0.0462	0.1760	0.0000	212.7289	212.7289	0.0583	2.2000e-003	214.8412
Maximum	**0.1502**	**1.2514**	**1.0109**	**2.4300e-003**	**0.3182**	**0.0498**	**0.3680**	**0.1299**	**0.0462**	**0.1760**	**0.0000**	**212.7289**	**212.7289**	**0.0583**	**2.2000e-003**	**214.8412**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.1219	0.9946	1.0226	2.4300e-003	0.1513	0.0378	0.1891	0.0606	0.0350	0.0957	0.0000	212.7286	212.7286	0.0583	2.2000e-003	214.8409
Maximum	**0.1219**	**0.9946**	**1.0226**	**2.4300e-003**	**0.1513**	**0.0378**	**0.1891**	**0.0606**	**0.0350**	**0.0957**	**0.0000**	**212.7286**	**212.7286**	**0.0583**	**2.2000e-003**	**214.8409**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**18.85**	**20.52**	**-1.16**	**0.00**	**52.47**	**24.00**	**48.62**	**53.31**	**24.13**	**45.66**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2024**	**3-31-2024**	0.5219	0.4202
2	**4-1-2024**	**6-30-2024**	0.2971	0.2387
3	**7-1-2024**	**9-30-2024**	0.5332	0.4162
		Highest	0.5332	0.4202

CNDDB Records

C

APPENDIX

Appendix C Special-Status Plant Species with Potential to Occur in the Project Vicinity

Species	Status (Federal/State/ CNPS)	Suitable Habitat Description	Potential to Occur on Project Site
Alkali milk-vetch *(Astragalus tener var. tener)*	--/--/1B.2	Alkaline sites in playas, valley and foothill grassland (on adobe clay), and vernal pools; elevation 1-60m. Blooming Period: March - June.	Unlikely. Suitable vernal pool or alkaline habitat not found at the project site.
Alkali-sink goldfields (*Lasthenia chrysantha*)	--/--/1B.1	Vernal pools. Alkaline; elevation 0-200m.	Unlikely. Suitable vernal pool or alkaline habitat not found at the project site.
Big tarplant *(Blepharizonia plumosa)*	--/--/1B.1	Valley and foothill grassland. Dry hills and plains in annual grassland. Clay to clay-loam soils, usually on slopes and often in burned areas; elevation 15-445m. Blooming Period: July - October.	Unlikely. Suitable clay soil habitat not found at the project site.
California alkali grass *(Puccinellia simplex)*	--/--/1B.2	Meadows and seeps, chenopod scrub, valley and foothill grasslands, vernal pools. Alkaline, vernally mesic. Sinks, flats,and lake margins; elevation 1-915m. Blooming Period: March - May.	Unlikely. Suitable vernal pool or alkaline habitat not found at the project site.
Coulter's goldfields *(Lasthenia glabrata* ssp. *coulteri)*	--/--/1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands; elevation 1-1375m. Blooming Period: February – June.	Unlikely. Suitable vernal pool or alkaline habitat not found at the project site.
Delta button-celery *(Eryngium racemosum)*	--/SE/1B.1	Riparian scrub; prefers seasonally inundated floodplain on clay soils; elevation 3-75m. Blooming Period: June - August.	Unlikely. Suitable riparian scrub habitat not found at the project site.
Diamond-petaled California poppy *(Eschscholzia rhombipetala)*	--/--/1B.1	Valley and foothill grassland. Alkaline, clay slopes and flats; elevation 0-97m. Blooming Period: March - April.	Unlikely. Suitable vernal pool or alkaline habitat not found at the project site.
Heartscale *(Atriplex cordulata* var. *cordulata)*	--/--/1B.2	Chenopod scrub, valley and foothill grassland, and meadows. Prefers alkaline flats and scalds in the Central Valley, on sandy soils; elevation 1-150m. Blooming Period: April - October.	Unlikely. Suitable alkaline habitat not found at the project site.
Hispid's salty bird's-beak *(Chloropyron molle* ssp. *hispidum)*	--/--/1B.1	Meadows, playas, valley and foothill grassland. In damp alkaline soils, especially in alkaline meadows and alkali sinks with Distichlis sp.; elevation 10-155m. Blooming Period: June - September.	Unlikely. Suitable meadow or alkaline habitat not found at the project site.
Hospital Canyon larkspur *(Delphinium californicum* ssp. *interius)*	--/--/1B.2	Cismontane woodland and chaparral, in wet, boggy meadows, openings in chaparral, and in canyons; elevation 225-1060m. Blooming Period: April - June.	Unlikely. Suitable meadow habitat not found at the project site.
Lemmon's jewel-flower *(Caulanthus lemmonii)*	--/--/1B.2	Pinyon-juniper woodland, valley and foothill grassland; elevation 80-1220m. Blooming Period: March - May.	Unlikely. Suitable woodland or undisturbed grassland habitat not found at the project site.

Species	Status (Federal/State/ CNPS)	Suitable Habitat Description	Potential to Occur on Project Site
Lesser saltscale *(Atriplex minuscula)*	--/--/1B.1	Chenopod scrub, playas, and valley and foothill grassland. In alkali sinks in sandy, alkaline soils; elevation 20-100m. Blooming Period: May - October.	Unlikely. Suitable alkaline habitat not found at the project site.
Lime Ridge navarretia *(Navarretia gowenii)*	--/--/1B.2	Chaparral, on calcium carbonate-rich soil with high clay content; elevation 180-305m. Blooming Period: May - June.	Unlikely. Suitable clay soil habitat not found at the project site.
Northern slender pondweed *(Stuckenia filiformis* ssp. *alpina)*	--/--/2B.2	Marshes and swamps. Shallow, clear water of lakes and drainage channels; elevation 5-2325m. Blooming Period: May – July.	Unlikely. Suitable wetland habitat not found at the project site.
Prostrate vernal pool navarretia *(Navarretia prostrata)*	--/--/1B.1	Coastal scrub, valley and foothill grassland, and vernal pools. Alkaline soils in grassland, or in vernal pools; elevation 15-700m. Blooming Period: April - July.	Unlikely. Suitable vernal pool or alkaline habitat not found at the project site.
San Joaquin spearscale *(Extriplex joaquinana)*	--/--/1B.2	Alkaline sites in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland; elevation 1-320m. Blooming Period: April - October.	Unlikely. Suitable vernal pool or alkaline habitat not found at the project site.
Sanford's arrowhead *(Sagittaria sanfordii)*	--/--/1B.2	Marshes and swamps. Found in standing or slow-moving freshwater ponds, marshes, and ditches; elevation 0-610m. Blooming Period: May - October.	Unlikely. Suitable wetland habitat not found at the project site.
Shining navarretia *(Navarretia nigelliformis* ssp. *radians)*	--/--/1B.2	Cismontane woodland, valley and foothill grassland, and vernal pools; elevation 200-1000m. Blooming Period: May - July.	Unlikely. Suitable vernal pool habitat not found at the project site.
Spiny-sepaled button-celery *(Eryngium spinosepalum)*	--/--/1B.2	Vernal pools within valley and foothill grassland. Some sites on clay soils of granitic origin; elevation 100-420m. Blooming Period: April - May.	Unlikely. Suitable vernal pool habitat not found at the project site.
Vernal pool smallscale *(Atriplex persistens)*	--/--/1B.2	Vernal pools on alkaline soils; elevation 10-115m. Blooming Period: July - October.	Unlikely. Suitable vernal pool or alkaline habitat not found at the project site.
Wright's trichocoronis *(Trichocoronis wrightii* var. *wrightii)*	--/--/2B.1	Marshes and swamps, riparian forest, meadows and seeps, vernal pools. Mud flats of vernal lakes, drying river beds, alkali meadows; elevation 5-435m. Blooming Period: May – September.	Unlikely. Suitable wetland habitat not found at the project site.

SOURCE: CDFW 2022, CNPS 2022

NOTE: Status Codes:

Federal (USFWS)

FE: Listed as Endangered under the Federal Endangered Species Act.

FT: Listed as Threatened under the Federal Endangered Species Act.

FC: A Candidate for listing as Threatened or Endangered under the Federal Endangered Species Act.

FSC: Species of Special Concern.

FD: Delisted under the Federal Endangered Species Act.

State (CDFW)
SE: Listed as Endangered under the California Endangered Species Act.
ST: Listed as Threatened under the California Endangered Species Act.
SR: Listed as Rare under the California Endangered Species Act.
SC: A Candidate for listing as Threatened or Endangered under the California Endangered Species Act.
SSC: Species of Special Concern.
SFP: Fully Protected species under the California Fish and Game Code.
SD: Delisted under the California Endangered Species Act.

CNPS Rare Plant Ranks and Threat Code Extensions
1B: Plants that are considered Rare, Threatened, or Endangered in California and elsewhere.
2B: Plants that are considered Rare, Threatened, or Endangered in California, but more common elsewhere.
.1: Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat).
.2: Fairly endangered in California (20-80% occurrences threatened).
.3: Not very endangered in California (<20% of occurrences threatened or no current threats known).

Appendix C Special-Status Wildlife Species with Potential to Occur in the Project Vicinity

Species	Status (Federal/State)	Suitable Habitat Description	Potential to Occur on Project Site
American badger *(Taxidea taxus)*	--/SSC	Most abundant in drier, open stages of most shrub, forest, and herbaceous habitats. Need sufficient food and open, uncultivated ground with friable soils to dig burrows. Prey on burrowing rodents.	Unlikely. Suitable undisturbed habitat not found at the project site.
Bald eagle *(Haliaeetus leucocephalus)*	FD/SE	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within one mile of water. Nests in large, old-growth, or dominant live tree with open branches.	Unlikely. Suitable open water habitat not found at the project site.
Blunt-nosed leopard lizard (*Gambelia sila*)	FE/SE	Resident of sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. Seeks cover in mammal burrows, under shrubs or structures such as fence posts.	Unlikely. Suitable alkaline habitat not found at the project site.
Burrowing owl *(Athene cunicularia)*	--/SSC	Open, dry, annual or perennial grasslands, desert, or scrubland, with available small mammal burrows.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.
California condor (*Gymnogyps californianus*)	FE/SE	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	Unlikely. Suitable open grassland habitat not found at the project site.
California horned lark *(Eremophila alpestris actia)*	--/SSC	Coastal regions, chiefly from Sonoma County to San Diego County, also within the main part of the San Joaquin Valley and east to the foothills. Prefers short-grass prairie, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Unlikely. Suitable native grassland habitat not found at the project site.
California linderiella *(Linderiella occidentalis)*	FSC/--	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools typically has very low alkalinity, conductivity, and total dissolved solids.	Unlikely. Suitable vernal pool habitat not found at the project site.
California red-legged frog *(Rana draytonii)*	FT/SSC	Rivers, creeks, and stock ponds with pools and overhanging vegetation. Requires dense, shrubby or emergent riparian vegetation, and prefers short riffles and pools with slow-moving, well-oxygenated water. Needs upland habitat to aestivate (remain dormant during dry months) in small mammal burrows, cracks in the soil, or moist leaf litter.	Unlikely. Suitable wetland habitat not found at the project site.

Species	Status (Federal/State)	Suitable Habitat Description	Potential to Occur on Project Site
California tiger salamander *(Ambystoma californiense)*	FT/ST	Grasslands and oak woodlands near seasonal pools and stock ponds in central and coastal California. Needs upland habitat to aestivate (remain dormant during dry months) in small mammal burrows, cracks in the soil, or moist leaf litter. Requires seasonal water sources that persist into late March for breeding habitat.	Unlikely. Suitable wetland habitat not found at the project site.
Conservancy fairy shrimp *(Branchinecta conservatio)*	FE/--	Endemic to the grasslands of the northern two-thirds of the central valley; found in large, turbid pools. Also occurs in swales formed by old, braided alluvium filled by winter/spring rains.	Unlikely. Suitable vernal pool habitat not found at the project site.
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	FE/SE	Alkali sink-open grassland habitats in western Fresno County. Bare alkaline clay-based soils subject to seasonal inundation, with more friable soil mounds around shrubs and grasses.	Unlikely. Suitable alkaline habitat not found at the project site.
Foothill yellow-legged frog *(Rana boylii)*	--/SSC	Partly shaded, shallow streams and riffles with rocky substrate in a variety of habitats. Requires at least some cobble-sized substrate for egg-laying and 15 weeks of available water to attain metamorphosis.	Unlikely. Suitable wetland habitat not found at the project site.
Giant garter snake *(Thamnophis gigas)*	FT/ ST	Prefers freshwater marsh and low gradient streams. Adapted to drainage canals and irrigation ditches. The most aquatic garter snake in California.	Unlikely. Suitable wetland habitat not found at the project site.
Golden eagle *(Aquila chrysaetos)*	--/SFP	Rolling foothill mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range. Also uses large trees in open areas.	Unlikely. Suitable habitat not found at the project site.
Hoary bat *(Lasiurus cinereus)*	--/SSC	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.
Least Bell's vireo *(Vireo bellii pusillus)*	FE/SE	Summer resident of southern and central California in riparian habitats below 2,000 feet in elevation. Often nests in large shrubs, along margins of bushes or on twigs projecting into pathways.	Unlikely. Suitable riparian habitat not found at the project site.
Loggerhead shrike *(Lanius ludovicianus)*	--/SSC	(Nesting) Broken woodlands, savannah, pinyon-juniper, Joshua tree and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning and fairly dense shrubs and brush for nesting.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.
Long-horn fairy shrimp *(Branchinecta longiantenna)*	FE/--	Endemic to the eastern margin of the Central Coast mountains in seasonally astatic grassland vernal pools. Inhabits small, clear-water depressions in sandstone and clear to turbid clay/grass-bottomed pools in shallow swales.	Unlikely. Suitable vernal pool habitat not found at the project site.

Species	Status (Federal/State)	Suitable Habitat Description	Potential to Occur on Project Site
Monarch butterfly (*Danaus plexippus*)	FC/--	Winter roost sites. Wind protected tree groves (Eucalyptus, Monterey pine, cypress) with nectar and water sources nearby.	Unlikely. Potentially suitable habitat (eucalyptus) found at the project site but no known overwintering sites in area. Most winter roost site are along the coast.
Northern California legless lizard *(Anniella pulchra)*	--/SSC	Sandy or loose loamy soils under sparse vegetation, moist soils. Anniella pulchra is traditionally split into two subspecies: *A. pulchra pulchra* (silvery legless lizard) and *A. pulchra nigra* (black legless lizard), but these subspecies are typically no longer recognized.	Unlikely. Suitable undisturbed sandy soil habitat not found at the project site.
Northern harrier *(Circus cyaneus)*	--/SSC	Found near coastal salt and freshwater marshes. Nests and forages in grasslands. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Unlikely. Suitable undisturbed habitat not found at the project site.
Pallid bat *(Antrozous pallidus)*	--/SSC	Deserts, grasslands, scrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.
Prairie falcon *(Falco mexicanus)*	--/SSC	Nesting Habitats. Open terrain, either level or hilly breeding sites located on cliffs. Forages far distances, including to marshlands and ocean shores.	Unlikely. Suitable undisturbed habitat not found at the project site.
Sacramento splittail *(Pogonichthys macrolepidotus)*	--/SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, and associated marshes. Slow moving river sections, dead end sloughs, requires flooded vegetation for spawning and foraging for young.	Unlikely. Suitable riverine habitat not found at the project site.
San Joaquin coachwhip *(Masticophis flagellum ruddocki)*	--/SSC	Open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley. Requires mammal burrows for refuge and oviposition sites.	Unlikely. Suitable undisturbed habitat not found at the project site.
San Joaquin kit fox *(Vulpes macrotis mutica)*	FE/ST	Annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing, and suitable prey base.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.
Steelhead *(Oncorhynchus mykiss irideus)*	FT/--	Coastal stream with clean spawning gravel. Requires cool water and pools. Needs migratory access between natal stream and ocean.	Unlikely. Suitable riverine habitat not found at the project site.
Swainson's hawk *(Buteo swainsoni)*	--/ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas, such as grasslands or agricultural fields supporting rodent populations.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.

Species	Status (Federal/State)	Suitable Habitat Description	Potential to Occur on Project Site
Tricolored blackbird *(Agelaius tricolor)*	--/SE	Areas adjacent to open water with protected nesting substrate, which typically consists of dense, emergent freshwater marsh vegetation.	Unlikely. Suitable marsh habitat not found at the project site.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT/--	Elderberry shrubs, usually in Central Valley riparian habitats.	Unlikely. Suitable riparian habitat not found at the project site.
Vernal pool fairy shrimp *(Branchinecta lynchi)*	FT/--	Endemic to the grasslands of the Central Valley, Central Coast Mtns., and South Coast Mtns. in astatic rain-filled pools. Inhabits small, clear-water sandstone depression pools and grass swale, earth slump, or basalt-flow depression pools.	Unlikely. Suitable vernal pool habitat not found at the project site.
Vernal pool tadpole shrimp *(Lepidurus packardi)*	FE/--	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in swales of unplowed grasslands.	Unlikely. Suitable vernal pool habitat not found at the project site.
Western pond turtle *(Emys marmorata)*	--/SSC	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs basking sites (such as rocks or partially submerged logs) and suitable upland habitat for egg-laying (sandy banks or grassy open fields).	Unlikely. Suitable pond or marsh habitat not found at the project site.
Western red bat *(Lasiurus blossevillii)*	--/SSC	Roosts primarily in trees, 2-40 feet above the ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Low potential to occur on project site due to presence of marginally suitable habitat. CNDDB occurrences recorded within the project site vicinity.
Western spadefoot *(Spea hammondii)*	--/SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands, breeds in winter and spring (January - May) in quiet streams and temporary pools.	Unlikely. Suitable undisturbed grassland habitat not found at the project site.

SOURCE: CDFW 2022

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