



*Working Together for a  
Better Tomorrow. Today.*

## **CONTRACT DOCUMENTS & SPECIFICATIONS**

**for**

### **ELECTRICAL PROJECT 2023-UG-1 ELECTRICAL UNDERGROUND CONDUIT INSTALLATION**

**Bid Opening Date/Time:  
September 29, 2022 @ 2:15 PM. (Local Time)**

City of Grand Island, City Hall  
100 East 1<sup>st</sup> Street, P.O. Box 1968  
Grand Island, NE 68802-1968

**Contacts:**

City of Grand Island  
Utilities Department  
Electrical Underground Division  
(308) 385-5470

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# **CHECKLIST FOR BID SUBMISSION**

**CHECKLIST FOR BID SUBMISSION  
ELECTRICAL PROJECT 2023-UG-1  
ELECTRICAL UNDERGROUND CONDUIT INSTALLATION  
FOR  
CITY OF GRAND ISLAND, NEBRASKA  
UTILITIES DEPARTMENT**

**Bids must be received by the City Clerk before 2:15 p.m. (local time) on September 29, 2022.**

The following items must be completed and submitted for your bid to be considered. All forms are available to be downloaded from the Quest CDN website. Failure to submit the correct number of copies will result in your bid not being considered.

Check Box:

- Submittal of bid documents – **OPTION 1 Online through the Quest CDN website.**
  - Completed Checklist For Bid Submission uploaded to the Quest CDN website.
  - The completed and signed bid uploaded to the Quest CDN website.
  
- Submittal of bid documents – **OPTION 2 Mailing – Delivering.**
  - Completed Checklist For Bid Submission, and two (2) additional copies.
  - The completed and signed bid, and two (2) additional copies.

**REQUIRED FOR ALL OPTIONS**

- Acknowledgment of Addenda Number(s) \_\_\_\_\_.
  
- Total bid and firm unit pricing and breakout of sales tax as applicable. (See Bid Form.)

\_\_\_\_\_  
Bidder Company Name

\_\_\_\_\_  
Name of Person Completing Bid – Please Print

\_\_\_\_\_  
Bidder Email Address

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Telephone No.

\_\_\_\_\_  
Fax No.

# **ADVERTISEMENT TO BIDDERS**

**ADVERTISEMENT TO BIDDERS**  
for  
**ELECTRICAL PROJECT 2023-UG-1**  
**ELECTRICAL UNDERGROUND CONDUIT INSTALLATION**  
for  
CITY OF GRAND ISLAND, NEBRASKA

Bids can be submitted online or to the office of the City Clerk, 100 East First St., Grand Island, NE 68801 or P.O. Box 1968, Grand Island, NE 68802 until **2:15 p.m. (local time) on September 29, 2022** for furnishing Electrical Project 2023-UG-1, Electrical Underground Conduit Installation for the City of Grand Island. Bids will be publicly opened at this time in the Grand Island City Clerk's office on 1st floor of City Hall. Bids received after the specified time will not be considered.

The Bid proposal and any Addenda may be viewed on-line at [www.grand-island.com](http://www.grand-island.com) under *Bids & Proposals – Bid Documents*. Bidding documents, plans, and specifications for use in preparing bids may be downloaded from the Quest CDN website, [www.QuestCDN.com](http://www.QuestCDN.com) for a thirty-dollar (\$30) fee. Bids must be uploaded to the Quest CDN website or received at the City Clerk's office (100 East First St., Grand Island, NE 68801) before the specified time to be considered. If mailing, or delivering to City Clerk's office, the bidder shall provide the original signed bid documents and two (2) additional copies of the Form of Contractor's Bid and three (3) copies of the Checklist for Bid Submission.

The successful bidder will be required to comply with fair labor standards as required by Nebraska R.R.S. 73-102 and comply with Nebraska R.R.S. 48-657 pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. Successful bidder shall maintain a drug free workplace. Every public contractor and his, her or its subcontractors who are awarded a contract by the City for the physical performance of services within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

Bids will be evaluated by the Purchaser based on price, quality, adherence to schedule, plan and specification, economy and efficiency of operation, experience and reputation of bidder, ability, capacity, and skill of the bidder to perform contract required and adaptability of the particular items to the specific use intended.

The Purchaser reserves the right to reject any or all bids and to waive irregularities therein and to accept whichever bid that may be in the best interest of the City, at its sole discretion.

No bidder may withdraw their bid for a period of sixty (60) days after date of opening bids.

RaNae Edwards, City Clerk

# **INSTRUCTIONS TO BIDDER**

**INSTRUCTIONS TO BIDDERS  
ELECTRICAL PROJECT 2023-UG-1  
ELECTRICAL UNDERGROUND CONDUIT INSTALLATION  
FOR  
CITY OF GRAND ISLAND, NEBRASKA  
UTILITIES DEPARTMENT**

**BIDDING DOCUMENTS:** Bid proposals and Addenda are available for viewing on-line at [www.grand-island.com](http://www.grand-island.com) under Business-Bid Calendars, free of charge. For a thirty dollar (\$30) fee, the documents can be downloaded from [www.QuestCDN.com](http://www.QuestCDN.com).

**BIDDER QUALIFICATION:** Bids will be received only from qualified bidders. Bidders shall furnish upon request a list of jobs of similar size, magnitude and requirements which they have satisfactorily performed. The list shall state the name of the purchaser, locations, date of purchase, size, type and operating conditions. Such data will be used to assist in determining the qualifications of the bidder, and shall be submitted within seven (7) calendar days from receipt of such a request by the City. Bidder must comply with all applicable Federal, State and local rules and regulations.

**SUBMISSION OF BIDS:** All bidders shall complete the bid forms within the contract document.

**OPTION 1 Online through the Quest CDN website.**

- Completed Checklist For Bid Submission uploaded to the Quest CDN website.
- The completed and signed bid uploaded to the Quest CDN website.

**OPTION 2 Mailing – Delivering.**

- Completed Checklist For Bid Submission, and two (2) additional copies.
- The completed and signed bid, and two (2) additional copies.

**BASE BID:** The bidder is expected to base their bid for furnishing and installing materials and items complying fully with these specifications; and in the event materials or items which do not conform are listed in the bid, the bidder will be responsible for furnishing materials and items which fully conform at no change in the bid price.

**ALTERNATE BIDS:** It is the desire of the Owner that the bidder base their bid price for this project on the written specifications and plans. If an alternate bid or bids are submitted by a bidder, the bidder shall first submit a bid price as above described and then describe an alternate bid. Failure to do so may be reason for not extending any consideration to alternate bids.



MODIFICATION OF BIDS: Bids may be modified or withdrawn by an appropriate document duly executed in the manner that a bid must be executed and delivered to the place where bids are to be submitted at any time prior to the final time set for receiving bids.

Any modification should not reveal the amended bid price but should provide only the addition, subtraction or other modifications. A duly-executed document confirming the modification shall be submitted within three (3) days after bids are opened.

ADDENDA: Any addendum to the specifications issued during the time allowed for preparation of bids shall be covered in the bid and, upon closing, shall become a part of the specifications. Each addendum issued before the date of the letting will be uploaded to Quest CDN, [www.QuestCDN.com](http://www.QuestCDN.com). All bidders with a Quest CDN account will be notified by email that an addendum has been issued. Bidder will not be able to submit their bid until addendum has been viewed, signed and has been uploaded to the website.

TAXES: The Grand Island Utilities Department is a non-exempt body and, as such, is required to pay City Sales Tax (which at present is 2.0%) and State Sales Tax (which at present is 5.5%). Therefore, all applicable taxes shall be included and be paid by the Contractor as part of the Contract price. The Contract price will be adjusted to compensate for any changes in taxes applicable or changes in tax rates which occur subsequent to the bid opening date and prior to completion of the Contract, in a manner equitable to both parties.

BID EVALUATION: Bids will be evaluated by the Purchaser based on price, quality, adherence to schedule, plan and specification, economy and efficiency of operation, experience and reputation of bidder, ability, capacity, and skill of the bidder to perform the Contract as required.

BID AWARD: It is intended that the City of Grand Island enter into Price Agreement(s) with multiple contractors for each line item pursuant to City Code §27-19. The City and Bidder recognize that the lowest bidder may not be available to meet the City's schedule and the City of Grand Island Utilities Department will use their judgment regarding the scheduling of work with the bidders to serve the best interest of the City.

INSURANCE COVERAGE: The Contractor shall purchase and maintain at their expense as a minimum insurance coverage of such types and in such amounts as are specified herein to protect Contractor and the interest of Owner and others from claims which may arise out of or result from Contractor's operations under the Contract Documents, whether such operations be by Contractor or by any subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable. Failure of Contractor to maintain proper insurance coverage shall not relieve him of any contractual responsibility or obligation.

GRATUITIES AND KICKBACKS: City Code states that it is unethical for any person to offer, give, or agree to give any City employee or former City employee, or for any City employee or former City employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefore. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

DRUG-FREE WORKPLACE POLICY: Bidders shall furnish upon request, a copy of their drug-free workplace policy.

FINANCIAL STATEMENT: The bidder shall furnish upon request a complete financial statement signed by the bidder, if an individual, by all partners if the bidder is a partnership and, by the President or Secretary, if the bidder is a corporation.

EQUAL EMPLOYMENT OPPORTUNITY: The Contractor agrees that during the performance of this Contract not to discriminate in hiring or any other employment practice on the basis of race, color, religion, sex, disability, age or national origin, and to comply with Executive Order 11,246 of September 24, 1965, and the rules, regulations and relevant orders of the Secretary of Labor, and Chapter 20 of the Reissue Revised Statutes of the State of Nebraska.

CORRESPONDENCE: Correspondence regarding drawings, instruction manuals, and other engineering data shall be clearly marked "ELECTRICAL PROJECT 2023-UG-1" and sent through:

Purchasing Division of the Legal Department  
City of Grand Island  
P. O. Box 1968  
Grand Island, NE 68802-1968  
Telephone (308) 385-5444, Ext. 138

REQUEST FOR INTERPRETATION: If any person contemplating submitting a bid for this Contract is in doubt as to the true meaning of any part of the specifications or other proposed Contract documents, they may submit to the Purchasing Division of the Legal Department a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by addendum duly issued and/or delivered to each person receiving a set of such documents. The addenda, upon

closing, shall become a part of the Contract. The Purchasing Division of the Legal Department will not be responsible for any other explanation or interpretation of the proposed documents.

LOCAL BIDDER PREFERENCE: In case of tied low bids, all other things being equal, preference shall be given in the following order:

1. To those bidders who manufacture their products within the limits of the City of Grand Island.
2. To those bidders who manufacture their products within the limits of the County of Hall.
3. To those bidders who package, process, or through some other substantial operation have employees and facilities for these purposes in the City of Grand Island.
4. To those bidders who package, process, or through some other substantial operation have employees and facilities for these purposes in the County of Hall.
5. To those bidders who maintain a bona fide business office in the City of Grand Island, whose products may be made outside the confines of the City of Grand Island.
6. To those bidders who maintain a bona fide business office in the County of Hall, whose products may be made outside the confines of the County of Hall.
7. To those bidders whose commodities are manufactured, mined, produced, or grown within the state of Nebraska, and to all firms, corporations, or individuals doing business as Nebraska firms, corporations or individuals, when quality is equal or better, and delivered price is the same or less than the other bids received.
8. To those bidders whose commodities are manufactured, mined, produced, or grown within the United States of America, and to all firms, corporations, or individuals doing business as firms registered in states other than Nebraska, when quality is equal or better, and delivered price is the same or less than the other bids received.

PRICE AGREEMENT DURATION: No work shall commence until the Certificate of Insurance are approved by the City and the Price Agreement is executed. The proposed work will commence as soon as possible after execution. The City of Grand Island Utilities Department shall coordinate with the Contractor(s) relative to scheduling work. **All work, including restoration, shall be completed by September 30, 2023.**

REQUESTS FOR PAYMENT: The City of Grand Island will make payments only after approval at regularly scheduled City Council meetings. These meetings typically occur the second and fourth Tuesday each month. Requests for payment must be received no less than ten (10) working days prior to the designated meeting to allow proper review and consideration. Payments will only be made after final completion of the work as approved by the City, unless otherwise stated elsewhere in the Bidding Documents.

TITLE VI: The City of Grand Island, in accordance with Title VI of Civil Rights Act of 1964, 78 Stat.252, 42 U.S.C 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office the Secretary, Part 21, Nondiscrimination in Federally assisted programs of the Department of Transportation issued pursuant to such Act, hereby notified all bidden that it will affirmatively insure that in any contact entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin, sex, age and disability/handicap in consideration for an award.

SECTION 504/ADA NOTICE TO THE PUBLIC: The City of Grand Island does not discriminate on the basis of disability in admission of its programs, services, or activities, in access to them, in treatment of individuals with disabilities, or in any aspect of their operations. The City of Grand Island also does not discriminate on the basis of disability in its hiring or employment practices.

This notice is provided as required by Title II of the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973. Questions, complaints, or requests for addition information or accommodation regarding the ADA and Section 504 may be forwarded to the designated ADA and Section 504 compliance coordinator.

Jerry Janulewicz  
City of Grand Island  
100 E. First Street  
Grand Island, NE 68801  
Monday-Friday 8:00 am to 5:00 pm  
(308)385-5444 ext. 119

# **FORM OF CONTRACTOR'S BID**

# FORM OF CONTRACTOR'S BID

## ELECTRICAL PROJECT 2023-UG-1 ELECTRICAL CONDUIT INSTALLATION FOR CITY OF GRAND ISLAND, NEBRASKA

TO THE MEMBERS OF THE COUNCIL  
CITY OF GRAND ISLAND  
GRAND ISLAND, NEBRASKA

THE UNDERSIGNED BIDDER, having examined the specifications, other attached documents, all addenda thereto and being acquainted with and fully understanding the extent, character and other factors and conditions affecting or which may be affected by the work,

HEREBY PROPOSES to furnish and install all required materials, supplies, equipment, tools and plant, to perform all necessary labor and supervision, and to construct, install, erect, equip and complete all work stipulated in, required by and in accordance with the specifications and other documents referred to therein (as altered, amended or modified by all addenda thereto) for and in consideration of the following unit prices. These prices will be used as the established price and shall include all materials, supplies, equipment, labor, and taxes necessary to furnish and install the unit complete. The contractor will be paid for actual quantities installed times the unit price. **Prices submitted by the Bidder shall remain valid from date of award through September 30, 2023;** and all work, including restoration, shall be completed by that date.

<u>ITEM / DESCRIPTION</u>	<u>UNIT PRICE (in figures)</u>
LABOR ONLY:	
Mobilization per Area	\$ _____ / Complete
Bore 6" Conduit	\$ _____ / LF
Bore 5" Conduit	\$ _____ / LF
Bore 4" Conduit	\$ _____ / LF
Bore 3" Conduit	\$ _____ / LF
Bore 2" Conduit	\$ _____ / LF
Bore 1" Cable-con	\$ _____ / LF
Trench/Vibratory Plowing 6" Conduit	\$ _____ / LF
Trench/Vibratory Plowing 5" Conduit	\$ _____ / LF
Trench/Vibratory Plowing 4" Conduit	\$ _____ / LF
Trench/Vibratory Plowing 3" Conduit	\$ _____ / LF
Trench/Vibratory Plowing 2" Conduit	\$ _____ / LF
Trench/Vibratory Plowing 1" Cable-con	\$ _____ / LF
6" GRC Conduit Riser - Complete	\$ _____ / EA
5" GRC Conduit Riser - Complete	\$ _____ / EA
4" GRC Conduit Riser - Complete	\$ _____ / EA
3" GRC Conduit Riser - Complete	\$ _____ / EA
2" GRC Conduit Riser - Complete	\$ _____ / EA

LABOR ONLY (Cont.):

ITEM / DESCRIPTION	UNIT PRICE (in figures)
6" x 30° - 45° - 90° Bend	\$ _____ / EA
5" x 30° - 45° - 90° Bend	\$ _____ / EA
4" x 30° - 45° - 90° Bend	\$ _____ / EA
3" x 30° - 45° - 90° Bend	\$ _____ / EA
2" x 30° - 45° - 90° Bend	\$ _____ / EA
Secondary Pedestal	\$ _____ / EA
Protective Post (Bollard)	\$ _____ / EA
Remove & Dispose Existing Bollard	\$ _____ / EA
Remove & Replace Concrete	\$ _____ / SY
Remove & Replace Asphalt	\$ _____ / SY
Seeding Non-residential Areas	\$ _____ / SF
Sodding Residential Areas	\$ _____ / SF

MATERIALS ONLY:

6" HDPE Conduit	\$ _____ / LF
5" HDPE Conduit	\$ _____ / LF
4" HDPE Conduit	\$ _____ / LF
3" HDPE Conduit	\$ _____ / LF
2" HDPE Conduit	\$ _____ / LF

All unit prices shall include sales tax. If Bidder fails to include sales tax in their unit price or takes exception to including sales tax in their unit price, the City will add a 7.5% figure to the unit price for evaluation purposes; however, the City will only pay actual sales tax due.

EXCEPTIONS TO SPECIFICATIONS: Each bidder shall carefully check all requirements herein set forth and shall offer items which fully comply with these requirements or shall plainly set forth all points, features, conditions, specifications, etc., wherein the bidder's items offered do not meet these specifications. Such exceptions as are made shall be listed by page number in the following blanks and shall be marked in ink on the pages of these specifications. Exceptions shall be explained in detail in a letter accompanying the bid. Reference shall not be made to other attachments for exceptions and supplementary terms. Failure to outline such exceptions as specifically stated herein will require the successful bidder to comply with these specifications. In case of conflict between the bid and these specifications, these specifications shall govern unless specific exceptions are listed by the bidder.

Exceptions to specifications: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

The City of Grand Island reserves the right to accept or reject any or all bids. Any exceptions to specifications must be noted in the space provided. No work shall commence until the Certificate of Insurance is approved.

INSURANCE: Bidder acknowledges that bid includes compliance with the attached insurance requirements.

EXPERIENCE DATA: Each bidder shall supply the following data on their experience:

Project Owner/Contact/Phone No.      Project Location      Completion Date

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ADDENDA: Bidder acknowledges that Addenda Number(s) \_\_\_\_\_ were received and considered in bid preparation.

The undersigned Bidder agrees to furnish the required bond and to enter into a contract within twenty (20) days after acceptance of this bid, and further agrees to complete all work covered by the foregoing bid in accordance with specified requirements. No work shall commence until the Certificate of Insurance and bonds (when required) are approved by the City, the price agreement is executed, and the Notice to Proceed is issued.

In submitting this bid it is understood that the right is reserved by the City to reject any and all bids; to waive irregularities therein and to accept whichever bid that may be in the best interest of the City. It is understood that this bid may not be withdrawn until after sixty (60) days from bid opening.

In submitting this bid, the Bidder states that Bidder fully complies with, and will continue to comply with, applicable State fair labor standards as required by section 73-102 RRS, 1943 and also complies with, and will continue to comply with, section 48-657 RRS, 1943 pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska.

The undersigned Bidder hereby certifies (a) that this bid is genuine and is not made in the interest of or in the behalf of any undisclosed person, firm or corporation, and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation, (b) that Bidder has not directly or indirectly induced or solicited any person, firm or corporation to refrain from bidding, (c) that Bidder has not sought, by collusion or otherwise, to obtain for themselves an advantage over any other Bidder or over the City of Grand Island, and (d) that Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham bid.

DATED \_\_\_\_\_

SIGNATURE OF BIDDER:

If an Individual: \_\_\_\_\_ doing business

as \_\_\_\_\_

If a Partnership \_\_\_\_\_

by \_\_\_\_\_ member of firm.



If a Corporation: \_\_\_\_\_

by \_\_\_\_\_ (Seal)

Title \_\_\_\_\_

BUSINESS ADDRESS OF BIDDER \_\_\_\_\_

\_\_\_\_\_

E-MAIL ADDRESS OF BIDDER \_\_\_\_\_

TELEPHONE NUMBER OF BIDDER \_\_\_\_\_

FAX NUMBER OF BIDDER \_\_\_\_\_

# **INSURANCE REQUIREMENTS**

**MINIMUM INSURANCE REQUIREMENTS**  
**CITY OF GRAND ISLAND, NEBRASKA**

The successful bidder shall obtain insurance from companies authorized to do business in Nebraska of such types and in such amounts as may be necessary to protect the bidder and the interests of the City against hazards or risks of loss as hereinafter specified. This insurance shall cover all aspects of the Bidder's operations and completed operations. Failure to maintain adequate coverage shall not relieve bidder of any contractual responsibility or obligation. Minimum insurance coverage shall be the amounts stated herein or the amounts required by applicable law, whichever are greater.

**1. WORKERS COMPENSATION AND EMPLOYER'S LIABILITY**

This insurance shall protect the Bidder against all claims under applicable State workers compensation laws. This insurance shall provide coverage in every state in which work for this project might be conducted. The liability limits shall not be less than the following:

Workers Compensation	Statutory Limits
Employers Liability	\$100,000 each accident
	\$100,000 each employee
	\$500,000 policy limit

**2. BUSINESS AUTOMOBILE LIABILITY**

This insurance shall be written in comprehensive form and shall protect the Bidder, Bidder's employees, or subcontractors from claims due to the ownership, maintenance, or use of a motor vehicle. The liability limits shall be not less than the following:

Bodily Injury & Property Damage	\$ 500,000 Combined Single Limit
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**3. COMPREHENSIVE GENERAL LIABILITY**

The comprehensive general liability coverage shall contain no exclusion relative to explosion, collapse, or underground property. The liability limits shall be not less than the following:

Bodily Injury & Property Damage	\$ 500,000 each occurrence
	\$1,000,000 aggregate

**4. UMBRELLA LIABILITY INSURANCE**

This insurance shall protect the Bidder against claims in excess of the limits provided under employer's liability, comprehensive automobile liability, and commercial general liability policies. The umbrella policy shall follow the form of the primary insurance, including the application of the primary limits. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	\$1,000,000 each occurrence
	\$1,000,000 general aggregate

**5. ADDITIONAL REQUIREMENTS**

The City may require insurance covering a Bidder or subcontractor more or less than the standard requirements set forth herein depending upon the character and extent of the work to be performed by such Bidder or subcontractor.

Insurance as herein required shall be maintained in force until the City releases the Bidder of all obligations under the Contract.

The Bidder shall provide and carry any additional insurance as may be required by special provisions of these specifications.

## **6. CERTIFICATE OF INSURANCE**

Satisfactory certificates of insurance shall be filed with the City prior to starting any work on this Contract. The certificates shall show the City as an additional insured on all coverage except Workers Compensation. The certificate shall state that thirty (30) days written notice shall be given to the City before any policy is cancelled (strike the "endeavor to" wording often shown on certificate forms). If the bidder cannot have the "endeavor to" language stricken, the bidder may elect to provide a new certificate of insurance every 30 days during the contract. Bidder shall immediately notify the City if there is any reduction of coverage because of revised limits or claims paid which affect the aggregate of any policy.

# **SPECIAL PROVISIONS**

# SPECIAL PROVISIONS

## ELECTRICAL PROJECT 2023-UG-1 ELECTRICAL CONDUIT INSTALLATION FOR CITY OF GRAND ISLAND, NEBRASKA

### SECTION 100 – GENERAL

100.01 Intent. The intent is to establish unit pricing for Electrical Underground Conduit installation within the City of Grand Island on an as-needed basis. The City will enter into Price Agreement(s) with a contractor(s) for each line item pursuant to City Code §27-19. There is no guarantee of quantities and no assurance that the City will need all items listed. The City recognizes that the lowest bidder may not be available to meet the City's schedule and the City of Grand Island Utilities Department will use their judgment regarding the scheduling of work with contractors to serve the best interest of the City. The duration of the Price Agreement(s) shall be from the date of award through September 30, 2023.

100.02 Description and Location of Work. The Contractor shall be responsible for all work including, but not limited to: furnishing material when required, trenching, pushing, boring, simultaneously boring and pushing of casing pipes, installing conduits, directional guided bores under roads, rivers, drainage ways, drives, walks, trees, and other items located in the project area; dewatering, shoring, excavating, tunneling, jacking casing, placing casing with specified support, sealing, compacting, backfilling, fine grading, and performing all work necessary for a high voltage electrical conduit system complete, FOB the City of Grand Island, as stated in these specifications for Electrical Project 2023-UG-1, and as shown on the attached drawings titled "Underground Electrical Standards."

The project limits are located throughout the City of Grand Island's electric service area, as indicated in the specifications, shown on the plans, and/or as otherwise communicated to the Contractor by the City of Grand Island.

100.03 Specifications. All Divisions of the City of Grand Island Specifications and Standard Plan Drawings shall be considered a part of this document, whether or not attached into these specifications, and it shall be the Contractor's responsibility to comply with all requirements thereof. The specifications as a whole will govern the construction of the entire work. The applicable provisions whereof will govern work to be performed under each section.

100.04 Warranty. All work shall be guaranteed by the Contractor. The Contractor shall hold themselves responsible for any and all defects which may develop in any part of the entire installation furnished by them and, upon receipt of written notice from the City, shall immediately replace and make good without expense to the City any such faulty part or parts and damage done by reason of same during a period of one (1) year from the date of formal acceptance of the installation.

The acceptance of the installation, or any part of it, shall not act to waive this liability on the part of the supplier.

100.05 Relations with Other Contractors. The Contractor shall cooperate with all other contractors and City crews who may be performing work in the vicinity of the work under this document; and shall conduct their operations to minimize interference with the work of such contractors or employees. The Contractor shall promptly make good, at Contractor's own expense, any injury or damage that may be sustained to other contractors or employees of the City, caused by Contractor's actions or inaction.

100.06 Baselines, Benchmarks, and Control Points. All work shall be laid out from existing section corners, benchmarks, and control points established by the City of Grand Island. The Contractor shall be responsible for executing the work to the lines and grades established. It shall be the Contractor's responsibility to maintain and preserve all baselines and control points. If such marks are destroyed by the Contractor without authorization by the City, all such lines, points, monuments and stakes shall be re-established by the City and the expense charged to the Contractor.

100.07 Underground Installations. Any existing underground installations in the vicinity of the work are to be checked by the Contractor. The Contractor shall be solely responsible for locating all existing underground installations and shall use their own information and shall not rely upon any information indicated on the drawings concerning existing underground installations. Any delay, additional work, or extra cost to the Contractor caused by existing installations shall not constitute a claim for extra work, additional payment or damages.

100.08 Protection of Property and Surface Structures. Trees, shrubbery, fences, poles, and all other property and surface structures shall be protected, unless their removal is shown on the project drawings or authorized by the City of Grand Island. When it is necessary to cut roots and tree branches, such cutting shall be done properly to minimize damage.

100.09 Miscellaneous Removal Items. It shall be the Contractor's responsibility to notify the property owners fourteen (14) days ahead of construction so the property owners may remove small trees, bushes, shrubs, fences, sprinkler systems, sod, etc., from the public right-of-way, public easement, or other defined construction limits, if the property owners wish to save them.

100.10 Restoration of Lawns, Ditches, Driveways and Roadways. All lawns, ditches, roadways, and other areas disturbed by excavation, backfill, and construction operations shall be fine graded and hand dressed as required to restore the terrain to its original shape. The Contractor shall leave the area in such a manner as to allow drainage without ponding, free of debris, and shall reseed and mulch as necessary to protect from erosion. All methods shall comply with State of Nebraska Department of Transportation standard specifications for restoration. All existing lawns, seeded or sodded landscape areas, ditches, roadways, and other areas covered with grassed vegetation disturbed during the installation of this project, shall be resodded and reseeded as per Section 900 and Section 1000 of these Special Provisions.

It is the intent of these specifications that where a driveway, roadway or other hard surfaced area is in conflict with the conduit to be installed, the driveway or roadway will be removed and replaced by the Contractor. Replacement shall be equal to or better than original. All removals shall be along existing construction joints. Saw cutting will only be as approved by the City. All concrete pavement restoration shall conform to Division II "Portland Cement Concrete Pavement" of the City of Grand Island Standard Specifications. All asphaltic pavement shall conform to Division IV "Asphalt Concrete Surface Course" of the City of Grand Island Standard Specifications.

100.11 Power Lines. There are existing energized electric power lines in the work area for this Contract. The Contractor shall use extreme caution such that personal safety is not jeopardized and electric continuity is maintained. Due to soil conditions and proximity, all poles and underground cables shall be supported during excavation, properly backfilled, and compacted to protect from damage.

Any time the Contractor, sub-contractors, or their employees are working near overhead or underground power lines, they will be required to comply with the Grand Island Electric Utility Department's Recloser Disabling and Transmission Line Outage Policy. A copy of the policy statement and inspection form are attached for reference.

100.12 Protection of Public. The Contractor shall accept full responsibility to the Public for loss or damage caused by or directly traceable to their operations, actions, or inaction on or near the public right-of-way or any City Owned property.

The Contractor shall accept full responsibility for any opened, unlocked, and/or excavated accesses energized cables, conduit, transformers, enclosures, or other electrical appurtenances related to each particular project.

100.13 Temporary Traffic Control. Part VI of the Manual of Uniform Traffic Control Devices (MUTCD) is the national standard for work zone traffic control. The current version that has been adopted by the City of Grand Island shall be followed.

Any crews, contractors, utility companies, or any other person, firm or corporation performing work within the right-of-way of any public street, public way, or alley in the City of Grand Island shall install and maintain Temporary Traffic Control (TTC) in accordance with the standards of the MUTCD.

The Contractor shall be responsible for all barricades, warning signs, flares or flashing lights adjacent to all work areas and /or coordination of any required detours. In situations where sight distance is limited, or where other safety conditions dictate, the Contractor shall provide additional means of controlling traffic, including but not limited to furnishing flaggers. Flaggers shall be properly attired with vest, head gear and stop/slow paddles, and used according to MUTCD flagging and signage procedures. No separate payment shall be made for used of flaggers and they shall be considered inclusive for traffic control.

The individual responsible for installing and maintaining the TTC shall provide telephone numbers of personnel who will be available on 24 hours per day, seven days per week basis to the Public Works Director. These individuals shall be responsible for repair, correction, replacement and maintenance of the traffic control devices. These individuals shall preform inspections of the TTC at the site until the work is completed and the right-of-way is cleared.

100.13.1 Temporary Traffic Control Oversight. The Public Works Director or their representative shall have the authority to direct corrective actions for any TTC not in compliance with the MUTCD and these provisions. These actions may include suspending operations and requiring removal of all equipment or materials for the right-of-way.

## **SECTION 200 – MATERIALS**

201.01 City Supplied Materials. All materials supplied by the City shall be available to the Contractor for pick up at the Utilities Department warehouse located at 1116 West North Front



Street; or at the Burdick Station storage yards located at 580 South Stuhr Road. The Contractor shall notify the Utilities Department (Randy Leiser - 308.390.5213, cell or 308.385.5470; office) or other designated City representative, a minimum of twenty-four (24) hours in advance to make arrangements for material pick up.

201.02 Conduit The City shall furnish and the Contractor shall install City supplied Carlon® Bore-Gard PVC conduit, standard PVC schedule 40 conduit, and/or GRC materials, including but not limited to: conduit, pipe, ells, bends, adapters, connectors, plugs, bases, PVC glue, pedestals and other miscellaneous materials for the complete installation of the project.

201.03 Secondary Pedestals. The City shall furnish and the Contractor shall install City supplied secondary pedestals in locations specified. Pedestals shall be: Pencil Plastics® AG-15HD or AG-14HP; or Western Power SPM-190.

202.01 Contractor Supplied Materials. The Contractor shall furnish, supply, and install the following conduit for high voltage electrical cables, as approved by the City:

Schedule 80, high density polyethylene (HDPE), in accordance with ASTM D1248, ASTM D2447, ASTM D3350, and ASTM D3035. HDPE pipe shall be color-coded red or black with red strips. Conduit joints shall be by heat fusion method, creating a watertight, moisture proof seal, in accordance with manufacturer's recommended procedures; or at Utility department discretion, a utility supplied coupling may be used. Jointing method shall not reduce inside diameter of any run.

Pipe shall be clearly marked with type, class, and thickness as applicable. Lettering shall be legible and permanent under normal conditions of handling and storage. All materials supplied by the Contractor shall be new, unused, and in good condition with no splits, cracks, or other physical irregularities. Pipe size shall be as indicated on the drawings.

## **SECTION 300 – INSTALLATION OF CONDUIT SYSTEM**

300.01 General. All conduit and pipe shall be installed in open cut trenches, conventional horizontal boring, directional bore or a combination thereof. The method to be used shall be the most economical, feasible, and as determined to provide the best solution to the completion of the project where indicated on the plans, and as approved by the City.

300.02 Fittings, Bends and Accessories. A run of conduit shall not contain more than the equivalent of four (4) quarter bends. The use of a pipe tee or vise for bending conduit will not be permitted. Only factory bends, ells, and fittings shall be permitted. Bends shall have 36-inch radius unless otherwise approved by the City. Standard conduit couplings shall have a center stop to insure proper seating.

All threaded joints, compression fittings, couplings, and junction boxes shall be made up secure, snug and rain-tight so as to prevent moisture from entering. All such appurtenances shall be approved for use in outdoor locations and sized per National Electric Code (NEC), Underwriter Laboratories (UL), and all governing local ordinances and regulations, allowing sufficient room for conduit and fitting entrances, wiring, and fusing.

300.03 PVC/GRC/HDPE Coupling. Where required to joint conduits of dissimilar materials (high-impact polyvinylchloride; high density polyethylene; or galvanized steel conduit),

connections shall be made with a push-on coupling, without solvent, adhesive bonding, fusion welding, or special installation equipment. Jointing system shall result in a pressure tight seal.

Connections shall be made using "E-Loc" couplings, Type EL-600, manufactured by ETCO Specialty Products, Inc., or approved equal. The use of a brand name is for the purpose of describing standard quality, performance and characteristics desired, and not intended to limit or restrict competition.

300.04 Excavation. The Contractor shall perform all excavations necessary for installation of the project. The City shall have the right to limit the amount of trench that may be opened in advance of the line of work. All excavated materials not required for backfill shall be removed from the project by the Contractor. Banks of trenches shall be kept as nearly vertical as practical and, where required, shall be properly sheeted and braced. Trenches shall be held to the minimum width needed to provide working space for proper installation.

All grading in the vicinity of trench excavation shall be controlled to prevent surface water from flowing into the trench. Any water accumulating in the trench shall be removed by pumping or other approved method. Material excavated from the trenches shall be stacked in an orderly manner a sufficient distance back from edge of trenches to avoid overloading and preventing slides or cave-ins. Materials unsuitable for backfilling shall be wasted by the Contractor as directed by the City.

300.05 Installation of Conduits. A minimum of seventy-two (72) hours prior to commencement of the project, the Contractor shall notify the City in order to coordinate work activities and cooperate with other utility crews who may be performing work within the construction area.

Care must be taken to keep the inside of all conduits free from dirt and other foreign materials. No rocks, debris, or other materials will be allowed next to conduits or cables. Conduit in which foreign materials have been allowed to accumulate shall be cleaned by acceptable methods as determined by the City.

The bottom of the trenches shall be accurately graded to provide uniform bearing and support for each section of conduit on undisturbed soil at every point along its entire length, except for portions of the conduit sections where it is necessary to excavate for bell holes. The conduits and cables shall be embedded in compacted sand backfill to a minimum depth of 12-inches above the conduit, and the conduit ends and stub-outs properly capped and protected. The remainder of trench shall be backfilled as per City of Grand Island Standard Specifications.

Spacing, elevations, and location of all conduits, risers, terminals, electrical vaults, pads, and stub-outs shall be as shown on the construction plan drawings and as marked in the field. Any deviations in the routing must be approved by the City in advance.

300.06 Compaction Testing. When standard backfill methods are used, density tests may be required for each 12-inch vertical lift of compacted material placed at a frequency of not greater than three hundred (300) lineal feet of trench. Density testing shall be required on each trench crossing the public right-of-way, easement, or as otherwise directed by the City. The Contractor shall maintain the trench backfill for one (1) year from the date of acceptance of the project by the City.

The Contractor may be required to hire an independent soil testing laboratory to test separately each lift for density and certify that each and every lift was compacted to 95% of maximum density

within the public right-of-way and to 90% of maximum density within public easements. Density test results shall be submitted to the City before acceptance of the project by the City.

300.07 Non-shrinkable Backfill. All excavations where a sidewalk, curb, gutter, or paved street has been cut or where new paving (concrete or asphalt) will be placed shall be backfilled using non-shrinkable backfill unless the Director of Public Works approves standard backfill methods. The backfill shall be filled to the sub-grade of the undisturbed sidewalk, curb, gutter, paving, or earth surface.

The non-shrinkable backfill shall be a mixture of sand, gravel, Portland cement and water, which flows easily around the utility being covered and develops a 28-day compressive strength of from 30 to 200 psi. No non-shrinkable backfill mix designs shall be used without the approval of the Public Works Director. Fly ash may be approved in the mix if test data are submitted to indicate the above characteristics are met.

The mix design shall meet the following requirements:

Portland Cement	60 lbs.
47-B Sand-Gravel	3,300 lbs.
Water	40 gal.

300.08 Neutral Wires and Ground Rods. Installation of neutral wires and ground rods shall be done by the Grand Island Utilities Department.

300.09 Protective Posts / Removal. The Utility Department uses concrete filled posts to protect its electrical infrastructure from traffic hazards. The Department may elect to have the Contractor remove existing posts that have been damaged.

Existing posts may be located in either unpaved or hard surfaced (concrete or asphalt) areas. In unpaved areas, the Contractor shall remove and properly dispose of posts as required. Damaged posts, located in hard surfaced areas, shall be removed by saw cutting and properly disposing such hard surfacing as required.

The terrain disturbed during post removals shall be backfilled, restored to its original shape, and resurfaced with like materials to the line and grade to match the adjacent area.

Payment for post removal shall be made at the unit price quoted. No extra payment shall be made for surfacing removal or restoration.

300.10 Protective Posts / Installation. The Contractor shall install concrete filled protective posts at each corner of transformer pads, sectionalizes, or as otherwise directed by the City. Protective posts shall be 3'-8" above and 3-feet below finished grade. Posts are to protect electrical infrastructure from traffic and shall not interfere with door openings.

The Utilities Department shall supply 6"x16 gauge galvanized corrugated metal pipe and required rebar. The Contractor shall supply all additional materials, including but not limited to, concrete.

Post may be required to be installed in either unpaved or hard surfaced (concrete or asphalt) areas. No extra payment shall be made for surfacing removal or restoration.

300.10.1 Protective Posts in Unpaved Areas. In unpaved areas the Contractor shall backfill, compact, fine grade, and hand dress as required around the posts after their installation. The terrain shall be restored to its original shape and surfacing of a type to match the surrounding area shall be placed in locations disturbed during installation.

300.10.2 Protective Posts in Hard Surfaced Areas. The Contractor shall be required to saw cut, remove and replace, and properly dispose of such hard surfacing as required to install protective posts. Hard surface restoration shall be equal to or better than original. All concrete pavement restoration shall conform to Division II "Portland Cement Concrete" of the City of Grand Island Standard Specifications. All asphalt pavement shall conform to Division IV "Asphaltic Concrete Surface Course" of the City of Grand Island Standard Specifications.

## **SECTION 400 – HORIZONTAL BORING**

400.01 General. This section covers the pushing, boring, or simultaneously boring and pushing of casing pipes under roads, railroads, drives, sidewalks, trees, and under other such obstructions, and refers to conventional horizontal boring and does not pertain to directional guided bores.

The Contractor shall be responsible for all work including, but not limited to: dewatering, shoring, excavating, tunneling, jacking casing, placing casing with specified support, sealing, compacting, backfilling, and fine grading.

400.02 Pipe Placement. Pipes or conduits shall be pushed or bored in place to the minimum depths and at locations as indicated on the drawings and installed as to prevent leakage of any substance from the casing through its length, except at the ends. Casing shall be so installed as to prevent the formation of a waterway under railroads, roadways, or other surfaced areas.

Pipe shall be placed through an augured hole or shall be advanced by jacking as the soil is removed by the auger or by jacking directly through soil. Boring without the concurrent installation of the casing pipe will not be permitted. The installation shall be performed in a manner that will not disrupt traffic nor damage the sub-grade, and will provide accurate alignment and grade of the pipe.

Before boring, all clearances shall be checked by the Contractor. All existing underground facilities shall be located and marked or exposed as necessary for safety and for protection of the existing facility.

Pipe jointing shall be completed before or as the pipe is installed. All joints shall be made secure.

Voids outside casings shall be pressure grouted. If a pipe casing cannot be completed but has to be abandoned, the pipe shall be either removed and the void filled or the pipe completely filled as indicated by the Utilities Department unless required otherwise.

400.03 Testing and Cleaning. When the pipe is installed, it shall be tested and cleaned as directed. As a clearance test, the pipe shall pass a rigid mandrel with a minimum length of twice the inside diameter of the pipe and a diameter 1/4" less than the inside diameter of the pipe. All foreign material, earth, sand, and gravel shall be removed from the pipe. Pipes, which will not be immediately used, shall be plugged at each end.

All pipes or conduits terminating in vaults or manholes shall be sealed around the outside of the pipe to provide a waterproof seal between the pipe and vault wall.

## **SECTION 500 – DIRECTIONAL BORING**

500.01 General. This section covers the installation of casing pipe by horizontal directional boring methods. This includes hauling all required material to the job site, excavating, backfilling, and restoration of all required surface access pits and launching and receiving pits. Additionally, it includes transporting and setting up all equipment used to perform the directional guided boring operation.

The Contractor shall be responsible for all work including, but not limited to: dewatering, shoring, excavating, tunneling, boring with specified support, sealing, compacting, backfilling, and fine grading.

500.02 Pipe Placement. The casing pipe shall be installed to the minimum depths and at locations specified by the Utilities Department.

The Contractor shall determine the types of subsurface materials, which will be found and shall determine their effect on the bore installation. All subsurface investigations required at bore locations shall be the responsibility of the Contractor.

The Contractor shall be responsible for dewatering, diverting water, and controlling downstream water turbidity as required for the site conditions. The construction work shall be in accordance with all applicable safety and environmental regulations.

The Contractor shall submit a directional boring plan and program proposal to the Utilities Department for review and acceptance not less than five (5) working days before the directional boring of the site is proposed to begin. The program proposal shall include a complete description of the components of any required drilling fluid. This shall include any Material Safety Data Sheets (MSDS).

The program proposal shall include an emergency procedure plan including a complete list of the appropriate governmental agencies to be notified. The program proposal shall include a statement that the Contractor has reviewed the site geology.

The City shall obtain right-of-way permits required for the installation of the bore, where required. Other permits required for the performance of the work shall be obtained by the Contractor.

If utilities of unknown depth or other obstructions will require deviating from planned conduit grade or alignment, the grade or alignment shall be adjusted with the acceptance of the Utilities Department. All adjustments shall permit gradual bends of the conduit to the original cable alignment beyond the directional bore section. At unusual site conditions, the Contractor may request a review of site conditions by the City for additional adjustment. An adjustment in alignment, position, or elevation accepted by the City shall not be cause for an adjustment of costs.

The directional boring shall be guided by guidance equipment that gives continuous, accurate monitoring of the drill bit position and done without disturbing stream banks, flow lines, ditch lines, grade lines or hard surfacing.

Deviations in planned horizontal alignment may be allowed, providing the conduit center-line shall vary no more than the pipe diameter plus 18-inches. Casing pipe entry and exit points shall deviate no more than 3-feet from the specified location unless approved by the City. The entry point may be moved further from the original entry only with the acceptance of the City. However, at no point along the length of the run shall the pipe deviate beyond the limits of the easement, property line, or other defined limits of construction. If it is discovered the pipe strays outside of the limits of construction, or otherwise deviates more than the approved maximum, the Contractor shall re-install the pipe to the accepted alignment and elevation at their own expense.

Any bore exit to the surface other than for the final casing location shall be plugged and stabilized before proceeding with the bore, and the exit site shall be restored to its original condition.

Protective coating on steel pipe that has been scratched, scraped, gouged, or damaged in any manner shall be repaired in accordance with the pipe coating manufacturer's specifications prior to placement of the pipe in the bored hole.

When boring requires the use of drilling mud, such as bentonite, no discharge of excess material or site runoff will be allowed into waterways. Mud tank capacities shall be sized to hold excess material completely by containing mud quantities without spillage. The casing pipe entry point shall be appropriately enclosed and equipped with a sump pump to reclaim or discharge excess mud to a reuse or disposal tank. Earth spoiled by drilling mud shall be removed and disposed of by the Contractor and the site refilled with clean material. The site shall be restored to a condition equal to or better than its original condition.

The Contractor shall maintain continuous visual inspection of the bore alignment at all times when the bore operation is proceeding. When the alignment goes beneath a body of water, a visual inspection shall be made at the most accessible point immediately downstream of the bore alignment for changes in turbidity or color, which may indicate a subsurface breach in the boring operation.

500.03 Testing and Cleaning. After the conduit system has been completely installed, it may be required to be tested and cleaned. As a clearance test, the pipe shall pass a rigid mandrel with a minimum length of 12-inches and a diameter 1/4" less than the inside diameter of the pipe.

After testing and cleaning have been completed, both ends of the pipe or conduit shall be terminated as indicated on the drawings. Pipe ends shall be clearly marked with a surface marker or the pipe ends shall be fenced.

After completion of the work, the Contractor shall submit two (2) copies of "as-built" drawings of each direction bore to the City. These drawings shall include the bore alignment, geometry, and locations of entry and exit points referenced to established project survey control. (unless they made arrangements to have it shot as it was being installed.)

500.04 Field Made Pipe Bends. Where pipe bends are required to be made in the field, such bends shall be made with approved bending tools, and following the pipe manufacturer's approved method of procedure.

Applying heat to steel pipe to facilitate making pipe bends will not be allowed. Bending pipe around portions of construction equipment and vehicles will not be allowed. Only approved mechanical pipe benders with properly sized bending shoes will be allowed. Pipe bending will not be allowed after jointing.

## **SECTION 600 - VIBRATORY PLOWING**

600.01 General. Vibratory plowing shall be defined as the simultaneously installation of cables, conduits, or pipes by making a small continuous burrow in the earth surface. The blade is subjected to an up and down continuously vibratory force, and as the plow moves, the conduit is placed into the duct created by the plow.

The plow's blade shall be designed to make a narrow slit in the earth through which such utility infrastructure is pulled as soon as the plow passes through the soil. The process shall produce a complete installation with minimal damage to the surface of the ground.

The Contractor shall be responsible for all work including, but not limited to: installation, compacting, and restoration associated with this method.

Vibratory plowing may be used for 4-inch diameter and smaller installations.

600.02 Cable, Conduit and Pipe Placement. As the vibrating plow moves, the cables, conduits, or pipes shall be placed into the duct, while maintaining a safe distance between the plow blade and the conduit placer. Spacing shall be continually monitored so that the cables, conduits, or pipes are not accidentally damaged.

Manufacturer's recommended tensile stress limits shall not be exceeded during the installation process, thus insuring that the placed cables, conduits, or pipes are not stressed or kinked, and are laid flat and true.

Simultaneous with installation of the cables, conduits, or pipes, the Contractor shall install a marker ribbon the entire length of the run. The ribbon shall be installed 12-inches to 18-inches above conduit.

600.03 Nominal Plow Depth. The depth of the plowing shall be as required to install cables, conduits, or pipes at the specified depth.

600.04 Compaction. Following installation of the cables, conduits, or pipes, the Contractor shall "wheel pack" the plowed slit. Excess loose material and/or voids shall be filled and compacted as additionally required. Settlement or ground heave shall not exceed 1/2" over the centerline of the run.

600.05 Testing and Cleaning. After the conduit or pipe has been installed, it shall be tested and cleaned. As a clearance test, the pipe shall pass a rigid mandrel with a minimum length of twice the inside diameter of the pipe and a diameter 1/4" less than the inside diameter of the pipe. All foreign material, earth, sand, and gravel shall be removed from the pipe. Pipes, which will not be immediately used, shall be plugged at each end to provide a waterproof seal.

## **SECTION 700 – BORE-GARD CONDUIT**

700.01 General. This section provides an installation guide for Carlon® Bore-Gard PVC conduit. The procedure is designed to meet the requirements of horizontal directional drilling.

700.02 Materials. The conduit will compare to standard Schedule 40 PVC. Each length of pipe will incorporate a seal, locking ring, end caps, and a bell. The conduit section will be belled

on one end with two grooves machined into the inside diameter of the bell and with a groove and chamfer machined into the outside diameter of the spigot end. The conduit will contain a lubricated triple-lobed gasket, factory installed in the bell end of pipe, to seal out ground water, boring lubricants, and other contaminants from entering the pipe. A nylon locking strap will secure the connection between two pieces of conduit without need of cement.

700.03 Assembly. The Bore-Gard conduit shall be assembled and installed in the following manner:

- Position the conduit with the print line facing up.
- Remove the nylon locking strap and set it aside for later use.
- Remove the end caps on only the first length of conduit. Trim the spigot end of the conduit pipe at the groove before attaching the pulling eye/grip attachment.
- Insert the pulling eye into the spigot end of conduit.
- Tighten the pulling eye so that it expands against the interior of the conduit. It is recommended that a sleeve is used over the outside of the conduit.
- Insert the spigot end of the next piece of conduit into the belled end of first piece until the insertion line is no longer visible.
- Slide the nylon locking strap into slot on the side of the bell. Push the strap in completely.
- Repeat with the remaining sections of conduit for the rest of the installation. The Contractor shall keep a log of all operations indicating the pullback loads exerted on the pipe for each section installed. A copy shall be provided to the City upon completion of the project. When monitoring records indicated the pullback forces exceed the pipe Manufacture's loading recommendations, the installation may be rejected.

## **SECTION 800 – MEASUREMENTS AND PAYMENT**

800.01 Method of Measurement. The installation of trenched, pushed, bored pipes, or directional bored conduit will be measured for payment by the linear foot of the various sizes and types of pipe acceptably trenched, pushed, or bored. Measurement will be for full length of final installed conduit, as verified in the field by type. The conduit measuring tape shall be furnished by the City and installed by the Contractor as directed.

After proving the casing pipe or concurrently with pipe proving, the Contractor may be requested to verify pipe lengths by installing a numbered measuring pull tape into each length of conduit. Installation shall be either by vacuum or blowing a missile attached to the measurement tape. The measuring tape shall remain in each length of pipe for future use by the City. All measurements shall be done in the accompaniment of a City representative. A minimum of 10-feet of pull line slack at each end shall be provided and attached to or extended through the temporary pipe plug seals to be installed.



Conduit measuring tape furnished by Grand Island City Utility Division shall be made of Kevlar®, rot and deterioration resistant, have low stretch properties for accuracy, permanently printed with measurements every foot from zero for the entire length of tape, and have an average breaking strength of not less than 2,500 pounds. Tape shall be manufactured by Greenlee Textron #39245, or approved equal. The use of a brand name is for the purpose of describing standard quality, performance and characteristics desired, and not intended to limit or restrict competition.

800.02 Payment for Multiple Conduit Runs. When multiple conduits are to be installed in the same trench or bore location, payment shall be made as follows: Installation of the first conduit shall be paid at 100% of material cost plus 100% of trench/bore cost per linear foot; the second conduit shall be paid at 100% of material cost plus 50% of trench/bore cost per linear foot; and each additional conduit shall be paid at 100% of material cost plus 25% of trench/bore cost per linear foot.

800.03 Fittings. Installed bends, sweeps, and fittings shall be paid per unit price for various sizes, types and/or styles, acceptable installed, verified, and complete in place.

800.04 Secondary Pedestals. Installed secondary pedestals shall be paid per unit price for various sizes, types and/or styles, acceptable installed, verified, and complete in place.

## **SECTION 900 – SALVAGING AND REPLACEMENT OF TOPSOIL**

900.01 General. This work shall consist of salvaging topsoil from areas requiring excavations, and replacing the topsoil after construction.

900.02 Quality of Topsoil. Topsoil shall consist of friable surface soil up to 1-foot in depth, reasonably free of grass, roots, weeds, sticks, stones, and other foreign materials.

900.03 Excavation. After the site has been cleared and grubbed, the topsoil shall be removed to the depth of 1-foot from the designated areas and shall be stockpiled at locations approved by the City. Objectionable materials encountered during excavation shall be removed from the construction site.

900.04 Spreading. Spreading shall not be done when the ground or topsoil is frozen, excessively wet or otherwise in the condition detrimental to the work. Surfaces designated to be covered shall be lightly scarified just prior to the spreading operation. Where compacted fills are designated to be covered by topsoil, the topsoil shall be placed concurrently with the fill and shall be bonded to the compacted fill with the compacting equipment.

After placement is completed, the surface of the topsoil shall be restored to the grade prior to construction.

900.05 Measurement and Payment. No separate or additional payment will be made for salvaging and spreading topsoil. Salvaging and spreading topsoil shall be considered subsidiary to items for which separate payment is made.

## **SECTION 1000 – SEEDING OF NON-RESIDENTIAL AREAS**

1000.01 General. This work shall consist of fertilizing, seeding, and mulching all non-residential areas disturbed by the Contractor, at locations shown on the plans, or as directed by the City. All

work shall comply with applicable state and federal seed laws and with the Nebraska Department of Transportation's "NDOT Roadside Vegetation Establishment and Management", handbook.

1000.02 Fertilizer. Fertilizers shall not be applied.

1000.03 Seed Requirements. The seed mixture shall comply with the following as specified for State of Nebraska Area 3B:

SEED TYPE	POUNDS per ACRES
Switchgrass .....	2 lbs.
NE 28, Pathfinder	
Blackwell, Trailblazer	
Sideoaks Grama .....	2 lbs.
Buttle, Trailway	
Blue Grama .....	1 lb.
NE, KS, CO	
Big Bluestem .....	2 lbs.
Champ	
Little Bluestem .....	1 lb.
Blaze, Camper	
Intermediate Wheatgrass .....	3 lbs.
Slate, Oahe	
Western Wheatgrass .....	5 lbs.
Barton, Flintlock	
Hairy Vetch .....	3 lbs.
2 x inoculation	
Alfalfa .....	0.25 lbs.
Ranger, Travois	

A minimum 85% purity of seed shall be used. Seed shall be premixed prior to delivery and bagged in known acreage lots. The Contractor shall obtain from the seed dealer and furnish to the Utilities Department, an analysis of each type and lot of seed they propose to use. The analysis shall provide complete information on the seed as required by State and Federal seed laws.

1000.04 Seeding Methods. The Contractor shall notify the City at least forty eight (48) hours in advance of the time they intend to begin work.

Seeding operations shall be performed only during the periods between March 1 and June 1 and between August 1 and August 31 except by express written permission from the City. No work shall be performed during excessively windy weather or when the ground is frozen, wet or otherwise untellable.

Not more than five (5) days prior to the sowing of seed, the seed bed shall be prepared by loosening the soil to a depth of not less than two inches by discing, harrowing, raking or by other approved means. Several discings, harrowings, or similar means may be required to provide a satisfactory seedbed. Discing, harrowing and raking shall be longitudinal on all slopes.

Existing weed stubble and small weeds shall be cut and partially incorporated into the soil during the seedbed preparation work. All other growth of vegetation what will interfere with seeding operations shall be removed. Extreme care shall be exercised to avoid injury to trees and shrubs.

For seeding, approved mechanical power drawn drills, broadcast type seeder or hydraulic seeders may be used. When drills are used, they shall be equipped with press wheels or drag chains. When broadcast type seeders or hydraulic seeders are used, the seed shall be harrowed with the exception of slopes too steep to operate equipment on. Seeded areas should be packed to reduce evaporation and provide good soil-seed contact.

Hydraulic seeding equipment shall include a pump, rated and operated at 100 gallons per minute and at 100 pounds per square inch pressure. The equipment shall have a suitable pressure gauge and a nozzle adapted to the type of work. Storage tanks of irregular shapes shall have a means of estimating the volume used or remaining in the tank.

Mechanical power-drawn drills shall have depth bands set to maintain a planting depth of 1/2" to 1-inch.

1000.05 Mulching. Areas to be mulched shall be the same as the seeded area or as otherwise designated by the City. The Contractor shall furnish the necessary equipment, and assistance needed to insure that specified quantities of mulch are being placed. The mulch shall be loose enough to allow sunlight to penetrate and air to slowly circulate, but thick enough to shade the ground, reduce the rate of water evaporation and prevent or reduce water or wind erosion.

1000.06 Mulch Requirements. Mulch shall be either dry cured native hay or dry threshed grain straw applied at the rate of two tons per acre. Hay or straw shall be free from leafy spurge, spotted knapweed, other noxious weeds, and relatively free from all other weeds.

The Contractor shall apply a protective mulch within 48 hours after sowing the seed. The mulch shall be applied with a mulch blowing machine or other approved methods at the rate specified.

Immediately following the spreading of the mulch, the material shall be anchored to the soil by a V-type wheel land packer, a soil erosion mulch tiller, or other suitable equipment which will secure the mulch firmly to form a soil-binding mulch.

## **SECTION 1001 – SODDING OF RESIDENTIAL AREAS**

1001.01 Sodding. For established residential lawns, public easements, or as otherwise directed by the City, sodding shall comply with the following amended requirements in accordance with the State of Nebraska Department of Roads Standard Specifications.

1001.02 Time of Sodding. Sodding shall not be performed when the ground is frozen or weather conditions are not favorable for growth as determined by the City.

1001.03 Sod Requirements. Sod shall be from approved field sources. The sod shall be a first class representation of normal species or varieties of bluegrass. The bluegrass sod shall have been grown from culturally planted bluegrass seed specifically for the production of bluegrass sod and shall have been maintained by acceptable methods for the production of bluegrass sod. The sod shall be mowed and raked to remove stems, sticks, and clippings prior to cutting. The sod shall be cut to a depth of approximately three-quarters of an inch. Sod shall be free of noxious weeds and relatively free from all other weeds. Extreme care shall be taken in cutting, handling, transporting and laying the sod to avoid unnecessary damage to and loss of earth from the roots of the sod. Sod shall not have dry or dead edges.

1001.04 Soil Preparation. Areas that are to be sodded shall be clear of debris and dead vegetation prior to the preparation of the sod bed. The sod shall not have a crusted appearance. All erosion shall be filled prior to laying the sod. All loose earth shall be firmed prior to laying the sod.

1001.05 Fertilizer. Fertilizers shall not be applied.

1001.06 Laying the Sod. The sod bed shall be thoroughly dampened prior to placing sod. The sod shall be laid over the area in strips edge to edge in a compact mass. The sod shall be laid approximately 1-inch below adjoining ground surfaces and flush with adjoining sod. Sod shall be rolled one time with an approved sod roller.

## **SECTION 1100 – PHASE II CONSTRUCTION REQUIREMENTS**

1100.01 General. When required, the Contractor shall prepare, submit, and fully comply with all Phase II Construction Requirements.

Phase II of the storm water program applies to all construction activities disturbing one or more acres of land, or if the site is less than one acre, but part of a larger common plan of development (such as a large subdivision). These sites must obtain a NPDES permit before any earthmoving activities begin. The NDEQ may require construction sites disturbing less than one acre of land to obtain a storm water discharge permit if such activities would adversely affect water quality.

In order to comply with Phase II of the storm water program, review all requirements contained in the NDEQ construction permit. The steps below are a brief outline of what must be done as part of your permitting process. These steps are not inclusive and the NDEQ construction permit must be referenced and followed for full compliance:

- Determine which parties are considered "operators" responsible for complying with the Phase II requirements.
- Complete and submit a Notice of Intent (NOI) with all required form work to NDEQ before construction activities begin that will cause land disturbance.
- Develop a Storm Water Pollution Prevention Plan (SWPPP) prior to the start of construction. The SWPPP does not need to be submitted to NDEQ, but must be kept on the construction site and accessible to everyone during construction activities.
- Implement the SWPPP, including completion of inspection reports that must be kept on site.
- Complete final stabilization of the site. Complete and submit a Notice of Termination (NOT) to the NDEQ.

The SWPPP must include the following:

- Site description identifying potential sources of pollution that may affect the quality of storm water discharges.
- Appropriate Best Management Practices (BMP), including erosion, sediment, and storm water management controls to minimize the discharge of pollutants from the site to the maximum extent practical.

- Description of steps taken to prevent and control pollutants in storm water discharge from the site, including inspection of all disturbed areas and maintenance of all controls to ensure their effective operation.
- The individual responsible for the SWPPP implementation.

A more detailed SWPPP development guide can be found at the EPA website. After the land disturbing activities are complete and the site has achieved final stabilization, the operator should terminate his coverage under the permit by completing a Notice of Termination (NOT) form and submitting it to NDEQ.

For more information on how to comply with the storm water program regulations, see the NDEQ website or the EPA's fact sheet "Storm Water Management for Construction Activities." More information about NPDES storm water permits and assistance on filling out required paperwork can be obtained by contacting NDEQ.

**Per NPDES General Permit Number NER300000 for Storm Water Discharges from Construction Sites to Waters of the State of Nebraska, all applicants shall concurrently submit a copy of NPDES form CSW-NOI to the municipal through which they discharge.**

## **SECTION 1200 – TEMPORARY EROSION CONTROL**

1200.01 Description. This section defines some temporary measures and construction practices the Contractor may use to prevent soil erosion and avoid water pollution.

The Contractor shall exercise every reasonable precaution throughout the Contract to prevent silting of rivers, streams, impoundments (lakes, reservoirs, etc.), the project site, and adjacent property. Construction of drainage facilities, as well as performance of other Contract work which will contribute to the control of siltation, shall be carried out in conjunction with earthwork operations, or as soon thereafter as is practicable.

The Contractor shall take sufficient precautions to prevent pollution of streams, lakes, reservoirs, the project site, and adjacent property with petroleum products, chemicals, or other harmful materials. All construction debris shall be disposed in a manner that it cannot enter any waterway. Waste excavation shall not be deposited in or so near to rivers, streams, or impoundments that it will be washed away by high water or runoff. The Contractor's erosion control measures shall be continued until the grass on seeded slopes is sufficiently established to be an effective erosion deterrent or until tentative acceptance of the work. All erosion control measures shall be properly maintained by the Contractor.

All erosion resulting from the Contractor's operations and the elements must be corrected by the Contractor at no additional cost to the City. The Contractor shall conduct all construction activities so as to avoid soil erosion. Each day, slopes shall be graded so that storm runoff will not erode soil.

The Contractor shall incorporate all permanent erosion control features, including cover crop seeding, into the project at the earliest practicable time, as outlined in the specifications. The Contractor shall be responsible for evaluating the construction site and determining the need for and installing permanent erosion control structures not shown in the plans (such as sediment traps, silt fence, ditch checks, etc.).

Cover crop seeding shall consist of furnishing and applying the appropriate cover crop seed as prescribed in the Special Provisions. The cover crop shall be seeded over the entire disturbed area of each portion of the project which has been finish graded. The City may designate other areas of the project to be cover crop seeded.

The Contractor shall also provide such measures, including dikes and berms, to limit erosion and siltation into streams, rivers, or other impoundments during the construction period, as well as during the times that work may be suspended. When such measures fail to provide adequate protection from erosion, the Contractor shall provide temporary slope drains to carry excess runoff from the fills in the vicinity of streams, rivers, or other impoundments.

Temporary slope drains may be constructed of pipe, fiber mats, rubble, concrete or asphaltic concrete, plastic sheets, or other materials acceptable to the City for erosion control.

# **DIVISION I**

## **GENERAL SPECIFICATIONS**

**APPLICABLE TO ALL  
CONSTRUCTION CONTRACTS**

**DIVISION I  
GENERAL SPECIFICATIONS**

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**DIVISION I  
GENERAL SPECIFICATIONS**

**SECTION 1 - DEFINITIONS OF WORDS AND TERMS**

Wherever in these specifications or in other contract documents the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

1.01      Abbreviations.

AASHTO	American Association of State Highway And Transportation Officials
ASTM	American Society for Testing and Materials
ANSI	American National Standards Institute
AWWA	American Water Works Association
AREA	American Railway Engineering Association
AWS	American Welding Society
AAN	American Association of Nurserymen

1.02      Advertisement. The advertisement for work or materials on which bids are to be received.

1.03      Award. The decision of the City to accept the bid of the lowest responsible bidder for the work, subject to the execution and approval of a satisfactory contract therefor and bond to secure the performance thereof and to such other conditions as may be specified or otherwise required by law.

1.04      Backslope. The sloping surface of a cut, the downward inclination of which is toward the roadbed.

1.05      Bidder. Any individual, firm, or corporation formally submitting a bid for the work contemplated, acting directly or through a duly authorized representative.

1.06      Calendar Day. Every day shown on the calendar, Sundays and holidays included.

1.07      Change Order. A written order to the Contractor, signed by the Engineer, ordering a change in the work from that originally shown in the plans and specifications.

1.08      City. The word "City" as used in these specifications refers to the City of Grand Island, Nebraska, acting through its City Council.

1.09      Contract. The written agreement executed between the City and the Contractor, covering the performance of the work and the furnishing of labor and materials, by which the Contractor is bound to perform the work and furnish the labor and materials, and by which the City is obligated to compensate Contractor therefor at the mutually established and accepted rate or price.

The contract shall include the "Notice to Bidders", these specifications, the Contractor's bond, the general and detailed plans, the bid, special provisions, and supplemental agreements.

1.10 Contract or Performance Bond. The approved form of security, executed by the Contractor and their surety or sureties, guaranteeing complete execution of the contract and all supplemental agreements pertaining thereto and the payment of all legal debts pertaining to the construction of the project.

1.11 Contract Item. An item of work specifically described and for which a price, either unit or lump sum, is provided. It includes the performance of all work and the furnishing of all labor, equipment, and materials described in the text of a specification item included in the contract or described in any subdivision of the text of the supplemental specification or special provision of the contract.

1.12 Contract Period. The period from the date specified in the contract for the commencement of the work to the date specified for its completion, both dates inclusive.

1.13 Contractor. The party of the second part to the contract; the individual, firm, or corporation undertaking the execution of the work under the terms of the contract and acting directly or through Contractor's agents or authorized employees.

1.14 Cul-de-sac Street. A local street open at one end only and with special provision for turning around.

1.15 Culvert. Any structure not classified as a bridge which provides an opening under any street.

1.16 Easement (Right-of-way). A right acquired by public authority to use or control property for a designated purpose.

1.17 Employee. Any person working on the project mentioned in the contract of which these specifications are a part, and who is under the direction or control or receives compensation from the Contractor or Contractor's subcontractor.

1.18 Engineer. The City Engineer, acting either directly or through an assistant or other representative duly authorized by the City Engineer, such assistant or representative acting within the scope of the particular duties assigned or with the authority given.

1.19 Extra Work. Work performed by the Contractor in order to complete the contract in an acceptable manner but for which there is no basis of payment provided in the contract.

1.20 Holidays. In the State of Nebraska, holidays occur on: January 1, Martin Luther King, Jr. Day in January, Presidents' Day in February, Arbor Day in April, Memorial Day in May, July 4, Labor Day in September, Columbus Day in October, Veterans Day and Thanksgiving Day in November, and December 25. If any of said dates fall on Sunday, the following Monday shall be a holiday. If any of said dates fall on Saturday, the previous Friday shall be a holiday.

1.21 Inspector. An authorized representative of the Engineer assigned to make detailed inspection of any or all portions of the work performed and materials furnished by the Contractor.

1.22 Laboratory. The testing laboratory of the City or any other testing laboratory which may be designated by the Engineer.

- 1.23 Notice to Bidders. The provisions, requirements, and instructions pertaining to the work to be awarded, manner and time of submitting bids , quantities of the major items or work required, as prepared for the information of bidders.
- 1.24 Plans. The official plans, profiles, typical cross sections, general cross sections, working drawings, and supplemental drawings, or exact reproductions thereof, approved by the Engineer, which show the location, character, dimensions, and details of the work to be done, and which are to be considered as a part of the contract supplementary to these specifications.
- 1.25 Project. All work necessary to be performed under the contract.
- 1.26 Bid. The offer of the bidder, submitted on the prescribed bid form, to perform the work and to furnish the labor and materials at the prices quoted by the bidder.
- 1.27 Bid Form. The approved form on which the City requires formal bids be prepared and submitted.
- 1.28 Bid Guarantee. The security furnished by the Bidder with Bidder's bid for a project as a guarantee that Bidder will enter into a contract for the work if said bid is accepted.
- 1.29 Right-of-way. The land area which is reserved or secured by the City for constructing the work or for obtaining material therefor.
- 1.30 Special Provisions. Special directions, provisions, or requirements peculiar to the project under consideration and not otherwise thoroughly or satisfactorily detailed or set forth in the specifications.
- 1.31 Specifications. The general term comprising all the directions, provisions, and requirements contained herein, together with such as may be added or adopted as supplemental specifications or special provisions, all of which are necessary for the proper performance of the contract.
- 1.32 Subcontractor. Any individual, firm, or corporation to whom the Contractor, with the written consent of the City, sublets any part of the contract.
- 1.33 Superintendent. The representative of the Contractor, present on the work at all times during progress, authorized to receive and fulfill instructions from the Engineer and capable of superintending the work efficiently.
- 1.34 Supplemental Agreements. Written agreements executed by the Contractor and the City subsequent to having entered into the contract, covering alterations in the plans or unforeseen items of construction.
- 1.35 Supplemental Specifications. Specifications adopted subsequent to the publication of this book. They generally involve new construction items or substantial changes in the approved specifications. Supplemental specifications shall prevail over those published in this book whenever in conflict therewith.
- 1.36 Surety. The corporate body bound with and for the Contractor for the acceptable performance of the contract, the completion of the work, and for payment of all just claims arising therefrom.

1.37 Work. Work shall be understood to mean the furnishing of all labor, materials, equipment, and other incidentals necessary or convenient to the successful completion of the project by the Contractor and the carrying out of all the duties and obligations imposed by the contract.

1.38 Working Day. Any day, except Saturdays, Sundays, and Nebraska holidays, on which the Contractor is not prevented by weather, soil conditions, or other conditions beyond the Contractor's control, adverse to the current controlling operation or operations, as determined by the Engineer, from proceeding with at least 80 percent of the labor and equipment force normally engaged in such operation or operations for at least 50 percent of the full number of hours in Contractor's normal daily schedule. Also, a Saturday, Sunday, or Nebraska holiday on which any work is performed on the current controlling operation or operations unless the Contractor is prevented by weather, soil conditions, or other conditions beyond the Contractor's control as determined by the Engineer, from proceeding for at least 50 percent of the full number of hours in their normal schedule with 80 percent of the normal working force.

1.39 Working Drawings. Stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplementary plans for similar data which the Contractor is required to submit to the Engineer for approval.

1.40 Work Order. A written order signed by the Engineer, of a contractual status requiring performance by the Contractor without negotiation of any sort and may involve starting, resuming, or the suspension of work. (Not to be confused with extra work order).

1.41 Completion of the Work and Formal Acceptance by the City. Whenever the term "completion of the work and formal acceptance by the City" is used, it refers to and means the formal acceptance of the work by the Engineer and the City at the time the Contractor has all work under the contract completed and in place.

1.42 Final Acceptance of the Work. Whenever the term "final acceptance of the work" is used, it refers to and means the time when the Engineer and the City finally accept the work. The contractor guarantee shall remain in force from the City's final acceptance for a period of one year.

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## **SECTION 2 – BID REQUIREMENTS AND CONDITIONS**

2.01 Contents of Bid Forms. Bidders will be furnished with bid forms which will state the location and description of the contemplated work and will show the estimate of the various quantities and kinds of work to be performed or materials to be furnished, with a schedule of items for which unit bid prices are asked, the time in which the work must be completed and the date, time, and place of opening bids. All special provisions and required provisions will be grouped together and bound with or included through reference in the bid form.

2.02 Interpretation of Quantities in Bid Forms. The quantities listed in the bid forms are to be considered as approximate, unless otherwise provided by special provision. It is understood that the quantities of work to be done and materials to be furnished may each be increased, diminished, or omitted as hereinafter provided without in any way invalidating the unit bid prices, except as provided in the section in these specifications entitled Increased or Decreased Quantities of Work.

2.03 Examination of Plans, Specifications, Special Provisions, and Site of Work. The bidder is required to examine carefully the site, the bid, plans, specifications, special provisions, and contract form for the work contemplated, and it will be assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished and as to the requirements of these specifications, the special provisions, and contract. It is mutually agreed that the submission of a bid shall be considered prima facie evidence that the bidder has made such examination.

2.04 Preparation of Bid. Bidders shall submit their bids on blank forms furnished by the Engineer with the full name and address and the place of business or residence of the bidder. If the bidder is co-partnership, the signature shall be by a member of the firm with the names and addresses of each member. If the bidder is a corporation, the signature shall be by an officer of the corporation in the corporate name and with the corporate name and the corporate seal attached thereto.

All blank spaces in the form shall be fully filled; numbers shall be stated in legible figures and writing when required; the signature shall be longhand; and the complete form shall be without interlineation, alteration, or erasure.

No oral, telegraphic, or telephonic bids or modifications will be considered.

When certain alternative prices, for both increasing and decreasing the cost, are required, as called for in the bid sheet, it must be understood that all materials and workmanship required shall be the best of their respective kinds and in all cases shall correspond with similar work herein specified and, if accepted, the work shall be done under the general terms of the specifications.

2.05 Statement of Bidder's Plant and Financial Conditions. Each bidder may submit with bid and, in any event, the City may, after bids are opened and prior to award of contract, require any bidder to submit the following data:

1. A statement that the bidder maintains a permanent place of business and address thereof;
2. A statement of equipment which the bidder proposes to use on the project, together with a statement noting that equipment previously mentioned which the bidder owns and that which bidder does not own but is certain bidder will be able to rent or otherwise procure for use on the project;
3. A financial statement, duly sworn to in a form approved by the City, listing assets and liabilities;
4. Statement listing projects of similar nature which the bidder has constructed or in the construction of which the bidder was actively engaged in a responsible capacity. Any bidder may be required by the City to submit additional data to satisfy the City that such bidder is prepared to fulfill the contract if it is awarded to them.

2.06 Certified Check, Cashier's Check, or Bid Bond. Each bidder must submit with the bid a certified check, cashier's check, or bid bond in the amount of not less than five percent (5%) of the amount bid, drawn to the order of the City Treasurer, Grand Island, Nebraska, guaranteeing the execution of the contract and bond required within ten (10) days of the notification of award. Any certified check must be issued by a bank in the State of Nebraska.

2.07 Filing of Bid. Bidders shall submit bid data on items offered in the Bid by filling in one set of data sheets supplied by the Engineering Department. The bid sheets shall be filled out legibly in black ink to permit reproduction.

Bidder security, when required, shall be enclosed in a special envelope marked, "BIDDER SECURITY/BID FOR \_\_\_\_\_." The envelope shall contain only a cashier's check or bidder's bond. This special envelope shall be attached to a sealed envelope containing the bid, filled out specifications, descriptive information drawings, qualification list and any other bid materials. This second envelope shall be marked "BID FOR \_\_\_\_\_." Bids of an incomplete nature or subject to multiple interpretations may, at the option of the Purchaser, be rejected as being irregular.

All bids shall be filed with the City at the place designated in the Notice to Bidders, prior to the time advertised for the opening of bids.

2.08 Withdrawal of Bid. A bidder will be permitted to withdraw said bid unopened after it has been submitted, if bidder's request for withdrawal is made in writing and delivered personally by the bidder or bidders' authorized representative prior to the time specified for opening of bids.

2.09 Public Opening of Bids. Bids will be publicly opened and read at the time and place stipulated in the Notice to Bidders.

2.10 Material Guarantee. Before any contract is awarded, the bidder may be required to furnish a complete statement of the origin, composition, and manufacture of any or all materials to be used in the construction of the work together with samples, which samples may be subjected to the test provided for in these specifications to determine their quality and fitness for the work.

### **SECTION 3 - AWARD AND EXECUTION OF THE CONTRACT**

3.01 Consideration of Bids. After the bids are opened and read, they will be compared on the basis of the summation of the products and the quantities shown in the bid schedule by the unit bid prices. The results of such comparisons will be immediately available to the public.

The right is reserved to reject any and all bids and to waive technical errors as may be deemed best for the interest of the City.

3.02 Award of Contract. In the award of contract, consideration will be given not only to the prices bid but also the mechanical and other equipment available to the bidder, the financial responsibility of the bidder, and bidder's ability and experience in the performance of like or similar contracts.

Award of contracts will be made as promptly as practical after bids have been opened and read. The City reserves the right to delay the award for such time as is needed for the consideration of the bids and for the receipt of concurrence in recommended contract awards from other governmental agencies whose concurrence may be required.

3.03 Cancellation of Award. The City reserves the right to cancel the award of any contract at any time before execution of the said contract by all parties without any liability against the City.

3.04 Return of Bid Guarantee. Bid guaranties will be returned to the unsuccessful bidders by mail promptly after the signing of the contract has been made. Return to the successful bidder will be made after the signing of the contract and filing of the contract bond.



3.05 Performance Bond. The Contractor shall furnish a performance bond with a company having the approval of the City in an amount of 100 percent of the contract price guaranteeing complete and faithful performance of the contract, payment of all bills of whatever nature which could become a lien against the property, and guaranteeing replacement of defective materials and workmanship for a period of one year after completion of the contract.

3.06 Contract Documents. Three (3) copies of Contract Documents shall be made, executed, and distributed as follows:

One copy to City Clerk  
One copy to Contractor                      One copy to Engineer

The following documents are a part of the contract:

*Notice to Bidders	*General Specifications
*Instructions to Bidders	*Special Provisions
*Bid	*Supplemental Specifications
*Detailed Specifications	*Performance Bond
*Contract	*Additional Drawings as required to make clear the intent of the contract

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3.07 Failure to Execute Contract. Failure to execute a contract and file an acceptable performance bond as provided herein within ten (10) days from date of award shall be just cause for the annulment of the award and the forfeiture of the certified check or cashier's check to the City, not as a penalty but in liquidation of damages sustained.

#### **SECTION 4 - SCOPE OF WORK**

4.01 Intent of Plans and Specifications. The intent of the plans and specifications is to provide for the construction and completion of every detail of the work described therein. It shall be understood by the Contractor that Contractor will furnish all labor, materials, tools, transportation, and supplies required for all or any part of the work to make each item complete in accordance with the spirit of the contract. It is understood that the apparent silence of the specifications as to any detail or the apparent omission of a detailed description concerning any point shall be regarded as meaning that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used.

For the purpose of design and the preparation of the Engineer's Estimate, the City may perform a reasonable amount of exploratory work to gain information relative to surface and subsurface conditions relating to type of soil, moisture content, and types and extent of rock strata.

This information when shown on the plan represents to the best of the City's knowledge conditions as of the date the survey was made. The appearance of this information on the plan will not constitute a guarantee that conditions other than those indicated will not be encountered at the time of construction.

The bidder may utilize this information as they see fit. Any bidder interested in the work is authorized to make whatever investigation they considers advisable.

In making such additional investigation, the bidder is directed to the Engineer for information relating to available right-of-way. If there are, at that time, any parcels of land over which the City does not have jurisdiction, right of entry must be secured by the prospective bidder from those authorized to grant such permission. Investigational work, performed by a prospective bidder on existing streets open to traffic, shall be performed in compliance with the

requirements of the current Manual on Uniform Control Devices for Street and Highways. All such additional investigational work shall be performed without costing or obligating the City in any way.

4.02 Special Work. Any conditions not covered by these standard specifications are stated in the special provisions.

4.03 Increased or Decreased Quantities of Work. The Engineer reserves the right to alter the quantities of contract items for which there are bid prices. Such increases or decreases in quantities shall be made as the City considers necessary or desirable without waiving or invalidating any of the provisions of the contract. All such alterations must be ordered in writing and a supplemental agreement must be executed with the Contractor for the item or items involved when such alterations involve an increase or decrease of more than 20 percent of the total cost of the work of any group of the contract calculated from the original bid quantities and the contract unit prices. The Contractor shall not start work on any alteration requiring a supplemental agreement until the agreement setting forth an equitable adjustment of compensation, satisfactory to both parties, shall have been executed by the Engineer and the Contractor and approved by City Council.

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4.04 Extra Work. The City reserves the right to order the performance of work of a class not contemplated in the bid but which may be considered necessary to complete satisfactorily the work included in the contract. Such extra work will be paid for as provided in these specifications under section entitled Payment for Extra Work.

4.05 Maintenance of Detours. Unless so required by the plans or the special provisions, the Contractor will not be required to assume any responsibility in connection with the maintenance or marking of suitable detours.

4.06 Temporary Traffic Control. Part VI of the Manual of Uniform Traffic Control Devices (MUTCD) is the national standard for work zone traffic control. The current version that has been adopted by the Nebraska Department of Roads is also applicable to the City of Grand Island and shall be followed.

Any City crews, contractors, utility company, or any other person, firm or corporation performing work within the right-of-way of any public street, public way, or alley in the City of Grand Island shall install and maintain Temporary Traffic Control (TTC) in accordance with the standards of the MUTCD.

The Public Works Director or their representative shall have the authority to direct corrective actions for any TTC not in compliance with the MUTCD and these provisions. These actions may include suspending operations and requiring removal of all equipment or materials from the right-of-way.

If the TTC is left in place longer than four (4) hours and no personnel are on the site, the individual responsible for installing the TTC shall provide telephone numbers of personnel who will be available on a 24 hours per day, seven days per week basis to the Public Works Director. These individuals shall be responsible for repair, correction, replacement and maintenance of the traffic control devices. These individuals shall perform inspections of the TTC at the site a minimum of twice during the day and once during the night every day until the work is completed and the right-of-way is cleared.

Subsidiary: Unless contract pay items are included with the bid specifications, direct payment for providing, installing, maintaining, and performing site inspections of TTC devices will not be made but are considered subsidiary to other items for which direct payment is

provided. When the contract contains a pay item for TTC, the NDOR standard items, specifications, etc. will be used.

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4.07 Maintenance of Traffic. The Contractor shall conduct the work so as to interfere as little as possible with public travel, whether vehicular or pedestrian. Whenever it is necessary to cross, obstruct, or close roads, driveways, and walks, whether public or private, the Contractor shall, at Contractor's expense, provide and maintain suitable and safe bridges, detours, or other temporary expedients for the accommodation of public and private travel, and shall give reasonable notice to owners of private drives before interfering with them. Such maintenance of travel will not be required when the Contractor has obtained permission from the owner or tenant of private property or from the authority having jurisdiction over public property involved to obstruct traffic at the designated area.

4.08 Street Closing. In the event it is deemed necessary for the Contractor to close any streets during the execution of said work, the Contractor shall notify the owner of such street closing 72 hours in advance, prior to any street closing due to open cut street crossing.

4.09 Miscellaneous Removal Items. The Contractor shall inform the Engineer sufficiently ahead of construction so landowners can be notified to remove small trees, shrubs, and fences from the construction limits if the landowners desire to save them.

4.10 Removal and Replacement of Property Stakes. If it is necessary to remove any property corners or markers during construction operations, the Contractor shall notify the Engineer so the Engineer can establish reference ties. Any markers removed without notice to the Engineer shall be replaced at the Contractor's expense in accordance with the proper land surveying techniques.

4.11 Removal and Disposal of Structures and Obstructions. The Contractor for bridge and culvert work shall remove any existing structure or part of structure that in any way interferes with the new construction. If specific payment for such work has not been provided in the contract, it will be paid for as extra work.

The Contractor shall remove any materials or structures found on the right-of-way which are not to remain in place or which have not been designated for use in the new construction. The removal and disposal of pipe culverts will not be paid for directly but shall be considered as incidental work, and the cost of such removal and disposal shall be considered to be included in the contract price for other items. Pipe culverts shall be removed by methods that will cause a minimum of damage to the pipe culverts. The removal and disposal of bridges or other masonry or monolithic concrete construction will be paid for. If the contract does not contain an item for such work, it will be paid for as extra work.

4.12 Rights In and Use of Materials Found on the Right-of-way. Unless stated to the contrary in the contract documents, all materials, such as stone, gravel, sand, timber, and structures or parts of structures, found on the right-of-way of the street or on land acquired for the work, are the property of the City or the owner of the fee title to the land, and shall not be used or destroyed by the Contractor without special permission from the Engineer. When the Contractor is permitted to use materials found on the right-of-way, any excavations that they make below the grade elevation shall be backfilled with other suitable materials so the finished street will conform to the grade shown on the plans. No extra compensation will be allowed for such backfilling.

When rock excavation is encountered, any portion of rock excavation which would otherwise be deposited in waste areas and not be incorporated in the embankments may be processed and used, royalty free, by the Contractor in any other portion of the construction in which material of that quality would be acceptable. No deduction will be made from excavation quantities for rock so used.

4.13 Construction and Demolition Debris. Debris from any City awarded project, as well as Municipal Solid Waste (that is not recycled), shall be disposed of at the City's Solid Waste facilities.

4.14 Final Cleaning Up. Upon completion of the work and before acceptance and final payment, the Contractor shall clean the street, borrow pits, and all ground occupied by Contractor in connection with the work of all rubbish, excess materials, falsework, temporary structures, and equipment, and all parts of the work, shall be left in a neat and presentable condition.

When required in the plans, the Contractor shall, at Contractor's expense, replace waste material or stripping back into borrow and material pits as directed by the Engineer. Trees, tree stumps and material placed on property adjacent to the street during the execution of the work shall be disposed of by the Contractor.

4.15 Right-of-way. Right-of-way for the work will be provided without cost to the Contractor. Right-of-way will be made available to the Contractor on or before the date specified for the commencement of the work unless a later date for the right-of-way to be made available to the Contractor is designated in the contract documents.

4.16 Railroad Crossings. Whenever the work involves construction with which railroad companies are concerned, the performance of the work is contingent upon arrangements with the railroad companies for the proposed construction. No claims will be allowed for loss or damage caused by failure to complete such arrangements.

4.17 Safety and Health Regulations for Construction. Occupational Safety and Health Standards for the Construction Industry (29 CFR Part 1926) with amendments as of February 1, 1999 promulgated by the Occupational Safety and Health Administration, United States Department of Labor, Washington, D.C. are incorporated herein as a part of the contract documents.

## **SECTION 5 - CONTROL OF WORK**

5.01 Authority of Engineer. The Engineer will have general supervision of the work and will decide any questions that arise with reference to the intent of the contract documents and compliance therewith. Said Engineer will relay all questions relating to materials, work, progress, disputes and mutual rights between contractors, fulfillment of contract, and compensation, in accordance with the provisions of these specifications.

5.02 Plans and Working Drawings. The approved plans will be supplemented by such working drawings as are necessary to adequately control the work. It is mutually agreed that all authorized alterations affecting the requirements and information given in the approved plans shall be in writing.

Working drawings for any structure shall consist of such detailed plans as may be required of the Contractor for the prosecution of the work. These are not included in the plans

furnished by the Engineer. They shall include shop details, erection plans, masonry, and form work. The Engineer's prior approval of the shop details must be obtained before any fabrication work involving these plans is performed. Erection plans, masonry layout diagrams, and plans for cribs, cofferdams, falsework, centering, and form work, as well as any other working drawings not previously mentioned, may be required of the Contractor and shall be subject to the Engineer's approval.

No changes shall be made in any plan or drawing after it has been approved except by consent or direction of the Engineer in writing. It is expressly understood that the approval by the Engineer of the Contractor's working drawings will not relieve the Contractor from any responsibility.

The contract price shall include the cost of furnishing all working drawings, and the Contractor will be allowed no extra compensation for such drawings.

Shop plans shall be made on 22"x36" sheet with ½" margin on all sides except the left which shall be 2". The margin lines shall measure 21"x33 ½". The marking shall be in accordance with the special plans or as may be required by the Engineer. All blueprint plans which are furnished to the Engineer shall be clear and distinct and acceptable to the Engineer and shall be neatly trimmed. The Contractor shall furnish the Engineer as many extra copies of working drawings as the Engineer may direct.

The Engineer may require reproducible prints of all approved shop plans, which shall be furnished by the Contractor without cost to the Engineer. Such reproducible prints shall not be folded but shall be mailed in tubes sized to accommodate these plans without injuring them. No preliminary working drawings will be accepted by the Engineer unless they have been carefully checked by the Contractor. Drawings showing gross errors will be returned for recheck before examination by the Engineer. The name of the shop or company furnishing the drawings shall be on the tracing.

5.03 Alteration of Plans or of Character of Work. The Engineer shall have the right to make alterations in plans or character of work as may be considered necessary or desirable during the progress of the work to satisfactorily complete the proposed construction. Such alterations shall not be considered as a waiver of any conditions of the contract or invalidate any of the provisions thereof.

5.04 Coordination of Plans, Specifications, Special Provisions, and Supplemental Specifications. These specifications, the supplemental specifications, the plans, special provisions, and all supplementary documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, figured dimensions shall govern over scaled dimensions, plans shall govern over specifications, special plans shall govern over standard plans, supplemental specifications shall govern over standard specifications, and special provisions shall govern over specifications, supplemental specifications, and the plans.

5.05 Cooperation of Contractor. The Contractor will be supplied with a minimum of two sets of approved plans and contract assemblies, including special provisions, one set of which the Contractor shall keep available on the work at all times.

The Contractor shall give the work the constant attention necessary to facilitate the progress thereof and shall cooperate with the Engineer and other contractors in every way possible.

The Contractor shall at all times have at the work site, as Contractor's agent, a competent superintendent capable of reading and thoroughly understanding the plans and specifications, thoroughly experienced in the type of work being performed, who shall receive

instructions from the Engineer or Engineer's authorized representatives. The superintendent shall have full authority to execute the orders or directions of the Engineer without delay, and to promptly supply materials, equipment, tools, labor, and incidentals as may be required. Such superintendence shall be furnished irrespective of the amount of work sublet.

5.06 Surveys. Lines and elevations shall be established by the Engineer before the work commences and the Contractor shall obtain lines and elevations from the points so set by the Engineer. The Contractor shall furnish all stakes necessary for lines and elevations and cooperate with the Engineer in setting same.

5.07 Authority and Duties of Inspector. The City may appoint inspectors to represent the Engineer in the inspection of all materials used in and all work done under the contract. Such inspection may extend to any part of the work and to the preparation or manufacture of the materials to be used. The inspector will not be permitted to modify in any way the provisions of the contract documents, nor to delay the work by failing to inspect materials and work with reasonable promptness. An inspector is placed at the work site to keep the Engineer informed as to its progress and the manner in which it is being done and to call the Contractor's attention to any infringements of the contract documents. The inspector will not act as foreman or perform other duties for the Contractor nor improperly interfere with the management of the work. They will not be authorized to approve or accept any portion of the work. In case of dispute between the Contractor and the inspector as to quality of materials or the manner of performing the work, the inspector shall have the authority to reject materials or suspend the work until the question at issue can be decided by the Engineer. Written notice of the suspension of work will be given to the Engineer and the Contractor.

5.08 Inspection of Work. The Contractor shall furnish the Engineer with every reasonable facility for ascertaining whether the work is being performed in conformance with the contract documents. At any time before acceptance of the work, upon request of the Engineer, the Contractor shall remove or uncover such portions of the finished work as the Engineer may direct. After examination has been made, the Contractor shall restore such portions of the work to the standard required by the contract documents.

If the work thus exposed or examined proves acceptable, the uncovering or removing and replacing of the covering or the restoring of the parts removed shall be paid for as extra work, except that no payment will be made for the work involved in checking the smoothness of pavement surfaces. If the work thus exposed and examined proves unacceptable, the Contractor shall replace the defective work in accordance with the specifications and will be paid only the contract price for the work as finally accepted. Work done or materials used without the Engineer having been afforded ample opportunity to provide suitable inspection may be ordered removed and replaced at the Contractor's expense or may be excluded from the quantities measured for payment.

5.09 Removal of Defective Work. Any defective work shall be removed and replaced at the Contractor's expense. Should the Contractor fail or refuse to remove defective work when so ordered by the Engineer, the Engineer shall have authority to order the Contractor to suspend further operations and may withhold payment on estimates until such defective work has been removed and replaced in accordance with the plans and specifications. Continued failure or refusal on the part of the Contractor to correct defective work promptly shall be sufficient cause for the City to declare the contract in default and to proceed to have the work completed in accordance with these specifications under section entitled Abrogation.

5.10 Final Inspection. Upon notification by the Contractor or Contractor's authorized representative that the work is completed, the Engineer shall make prompt final inspection of each item of work included in the contract. If the work is found to not be in accordance with the contract documents, the Contractor will be advised as to the particular defects to be remedied.

## **SECTION 6 - CONTROL OF MATERIALS**

6.01 Source of Supply and Quality Requirements. The materials used on the work shall meet all quality requirements of the contract. In order to expedite the inspection and testing of materials, the Contractor shall notify the Engineer of Contractor's proposed sources of materials prior to delivery. At the option of the Engineer, approval of the source or approval of materials at the source prior to delivery may be required. If it is found after trial that sources of supply for previously approved materials do not produce specified products or when conditions are such that the use of unfit materials cannot be prevented except by extraordinary inspection methods, the Contractor shall

furnish materials from other sources. Before delivery is started and at any time during the process of preparation and use, the materials shall be subject to the approval of the Engineer.

6.02 Methods of Sampling and Testing, and Cited Specifications. Sampling and testing of all materials and the laboratory methods and testing equipment required under these specifications shall be in accordance with the latest published standard method of the AASHTO, except as otherwise provided.

The sampling and testing of all materials not covered by the AASHTO, but not otherwise provided for, shall conform to the latest published standard or tentative methods of the ASTM.

6.03 Storage of Materials. The Contractor shall be responsible for the care and storage of materials delivered at the work site or purchased for use thereon. Any material that has been delivered to the work site and has become damaged before actual incorporation in the work may be rejected by the Engineer even though it may previously have been accepted. Stored materials shall be so located as to facilitate thorough inspection.

6.04 Unacceptable Materials. All materials not conforming to the requirements of the specifications at the time they are to be used shall be considered as unacceptable, and all such materials will be rejected and shall be removed immediately from the site of the work unless otherwise instructed by the Engineer. No rejected materials, the defects of which have been corrected, shall be used until approval has been given.

6.05 Guarantee. The Contractor shall be responsible for any and all defects which may develop in any part of the entire installation furnished by said Contractor and, upon receipt of written notice from the Engineer, shall immediately replace and make good without expense to the City any such faulty part or parts and damage done by reason of same during a period of one (1) year from the date of formal acceptance of the installation (except when specific guarantee for another length of time is elsewhere specified).

The acceptance of the installation, or any part of it, shall not act to waive this liability on the part of the Contractor.

Upon completion and formal acceptance of the work, the Contractor may furnish a satisfactory bond in an amount of fifteen percent (15%) of contract price to insure the provisions of this guarantee. Otherwise, the original bond shall remain in full force and effect until final acceptance of the work, which acceptance shall be made one (1) year after the formal acceptance of the work as provided herein.

6.06 "Or Equal" Clause. Whenever, in any section of the contract documents, plans, or specifications, any article, material, or equipment is defined by describing a proprietary product or by using the name of a manufacturer or vendor, the term "or approved equal", if not inserted, shall be implied. The specific article, material, or equipment mentioned shall be understood as indicating the type, function, minimum standard or design, efficiency, and quality desired and shall not be construed in such a manner as to exclude manufacturer's products of comparable quality, design, and efficiency. The Engineer shall determine the acceptability of articles, materials, or equipment proposed as equals.

## **SECTION 7 - LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC**

7.01 Laws to be Observed. The Contractor shall keep fully informed of and, at all times, shall observe and comply with all Federal and State laws, all local bylaws, ordinances, and regulations, and all orders and decrees of bodies or tribunals having any jurisdiction or authority which in any manner affect those engaged or employed on the project, or which in any way affect the project. The Contractor shall protect and indemnify the City and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by said Contractor or Contractor's employees. It shall be the responsibility of the Contractor to provide all safeguards, safety devices, and protective equipment and to take any other needed actions as are reasonably necessary to protect the life and health of employees on the project.

7.02 State and City Fair Labor Standards. The Contractor agrees to comply with all applicable State and City fair labor standards in the execution of the contract, including compliance with Section 73-102, R.R.S. 1943. The Contractor further agrees to comply with the provisions of Section 48-657, R.R.S. 1943, pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. In addition, the Contractor agrees to comply with the provisions of Section 52-118, R.R.S. 1948, pertaining to payment of all labor performed and for payment for materials and equipment rental which is actually used in performing this contract.

7.03 Anti-discrimination. During the performance of the work, the Contractor agrees not to discriminate against any employee or application for employment because of race, color, age, religion, sex, or national origin.

7.04 Permits. The Contractor shall procure and pay for all permits, licenses, and bonds necessary for the prosecution of Contractor's work and/or required for municipal, State, and Federal regulations and laws.

7.05 Patents. The Contractor and the surety in all cases shall indemnify and save harmless the City for any costs, expenses, and damages which it may be obligated to pay by reason of any such infringement at any time during the prosecution of or after the completion of the project.

7.06 Restoration of Surfaces Opened by Permit. Upon the presentation of a duly authorized and satisfactory permit from the City which provides that all necessary repair work will be paid for by the party to whom such permit is issued, the Engineer may authorize the Contractor to allow parties bearing such permits to make openings in the street. The Contractor shall, when ordered by the Engineer in writing, make in an acceptable manner all necessary repairs due to such openings, and such necessary work ordered by the Engineer shall be paid for on the basis of "Extra Work" as provided for in these specifications and shall be subject to the same conditions as original work performed.



7.07 Safety, Health, and Sanitation. In the performance of the contract, the Contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation. The Contractor shall furnish such additional safeguards, safety devices, and protective equipment and shall take actions as the Engineer may determine as being reasonably necessary to protect the life and health of Contractor's employees and the public.

7.08 Barricades and Warning Signs. Except as otherwise provided specifically in this section, the Contractor shall provide and maintain barricades, danger and warning signs, and suitable and efficient lights, and shall take every reasonable precaution to prevent accidents. The name of the Contractor shall be clearly visible on the barricades. The Contractor shall provide, at their own expense, such watchmen as are necessary to protect their equipment and to maintain proper lights.

Watchmen who may be necessary to direct traffic or prevent travel on any portion of the street shall be provided by the Contractor on written order from the Engineer. Unless the contract specifically provides that such watchmen are to be furnished by the Contractor, this expense shall be paid for as provided in "Extra Work."

7.09 Use of Explosives. When the use of explosives is necessary for the prosecution of the work, the Contractor shall use the utmost care not to endanger life or property. All explosives shall be stored in a secure manner, and storage places shall be clearly marked "DANGER--EXPLOSIVES."

7.10 Claims for Labor and Materials. The Contractor shall indemnify and save harmless the City from all claims for labor and materials furnished under this contract. When requested by the City, the Contractor shall submit satisfactory evidence that all persons, firms, or corporations who have done work or furnished materials under this contract, for which the City may become liable under the laws of the State, have been fully paid or satisfactorily secured. In case such evidence is not furnished or is not satisfactory, an amount will be retained from money due the Contractor which, in addition to any other sums that may be retained, will be sufficient, in the opinion of the City, to meet all claims of the persons, firms, and corporations as aforesaid. Such sum shall be retained until the liabilities as aforesaid are fully discharged or satisfactorily secured.

7.11 Contractor's Insurance. The Contractor shall secure and maintain throughout the duration of this contract insurance, from companies authorized to do business in Nebraska, of such types and in such amounts as may be necessary to protect themselves and the interests of the City against all hazards or risks of loss as hereinafter specified. This insurance shall cover all aspects of the Contractor's operations and completed operations. The form and limits of such insurance, together with the underwriter thereof in each case, shall be approved by the City, but regardless of such approval it shall be the responsibility of the Contractor to maintain adequate insurance coverage at all times. Failure of the Contractor to maintain adequate coverage shall not relieve them of any contractual responsibility or obligation. Minimum insurance coverage shall be the amounts stated herein or the amounts required by applicable law, whichever are greater.

1. "Worker's Compensation and Employer's Liability." This insurance shall protect the Contractor against all claims under applicable State worker's compensation laws. This insurance shall provide coverage in every state in which work for this project might be conducted. The Contractor shall also be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a worker's compensation

law. This policy shall include an "all states" endorsement. The liability limits shall be not less than the following:

Worker's Compensation	Statutory Limits
Employer's Liability	\$100,000 each accident
	\$100,000 each employee
	\$500,000 policy limit

2. "Business Automobile Liability." This insurance shall be written in comprehensive form and shall protect the Contractor, Contractor's employees, or subcontractors from claims due to the ownership, maintenance, or use of a motor vehicle. The liability limits shall be not less than the following:

Bodily Injury & Property Damage	\$500,000 Combined Single Limit
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3. "Comprehensive General Liability." The comprehensive general liability coverage shall contain no exclusion relative to explosion, collapse, or underground property. The liability limits shall be not less than the following:

Bodily Injury & Property Damage	\$ 500,000 each occurrence
	\$1,000,000 aggregate

4. "Umbrella Liability Insurance." This insurance shall protect the Contractor against claims in excess of the limits provided under employer's liability, comprehensive automobile liability, and commercial general liability policies. The umbrella policy shall follow the form of the primary insurance, including the application of the primary limits. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	\$1,000,000 each occurrence
	\$1,000,000 general aggregate

5. Additional Requirements. The City may require insurance covering a Contractor or Subcontractor more or less than the standard requirements set forth herein depending upon the character and extent of the work to be performed by such Contractor or Subcontractor.

Insurance as herein required shall be maintained in force until the City releases the Contractor of all obligations under the contract.

The Contractor shall provide and carry any additional insurance as may be required by special provisions of these specifications.

6. Certificate of Insurance. Satisfactory certificates of insurance shall be filed with the City prior to starting any work on this contract. The certificates shall show the City as an additional insured on all coverage except Workers Compensation. The certificate shall state that thirty (30) days written notice shall be given to the City before any policy is cancelled (strike the "endeavor to" wording often shown on certificate forms). If the Contractor cannot have the "endeavor to" language stricken, the Contractor may elect to provide a new certificate of insurance every thirty (30) days during the contract. The Contractor shall immediately notify the City if there is any reduction of coverage because of revised limits or claims paid which affect the aggregate of any policy.

7.12 Proof of Carriage of Insurance. Satisfactory certificates of insurance shall be filed with the City prior to starting any construction work on this contract. The certificates shall show the City as "Additionally Insured." The certificates shall state that thirty (30) days written notice shall be given to the City before any policy covered thereby is changed or canceled (strike the "endeavor to" wording often shown on certificate forms).

7.13 Contractor's Responsibility for Utility Property and Services. At points where the Contractor's operations are adjacent to properties of railway, telegraph, telephone, and power companies or adjacent to other property to which damage might result, work shall not be commenced until all arrangements necessary for the protection thereof have been made.

The Contractor shall cooperate with the owners of any underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication of rearrangement work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.

In the event of interruption to water or utility services as a result of accidental breakage or as result of being exposed or unsupported, the Contractor shall promptly notify the proper authority. Contractor shall cooperate with said authority in the restoration of service as promptly as possible. In no case shall interruption to water service be allowed to exist outside of working hours. Fire hydrants shall be kept accessible to the Fire Department at all times and no materials shall be kept or stockpiled within fifteen (15) feet of any fire hydrant.

The Contractor must cooperate with the utility companies and schedule work in such a manner as to protect the existing utility facilities until the facilities are abandoned or replacement facilities are completed. In instances where partial grading is necessary before a utility can install its facilities, the Contractor shall consult with the utility and plan the work so reasonable time can be allowed the utility for completing its work.

7.14 No Waiver of Legal Rights. The City shall not be precluded or estopped by any measurement, estimate, or certificate made either before or after the completion and acceptance of the work and payment therefor from showing the true amount and character of the work performed and materials furnished by the Contractor, nor from showing that such measurement, estimate, or certificate is untrue or is incorrectly made, nor that the work or materials do not in fact conform to the contract. The City shall not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor or Contractor's sureties, or both, such damage as it may sustain by reason of Contractor's failure to comply with the terms of the contract. Neither the acceptance by the City or any representative of the City, nor any payment for or acceptance of the whole or any part of the work, nor any extension of time, nor any possession taken by the City shall operate as a waiver of any portion of the contract or of any power herein reserved or of any right to damages. A waiver of any breach of the contract shall not be held to be a waiver of any other or subsequent breach.

7.15 Exposure of Pipe or Manholes. The Contractor shall conduct the work at all times in such a manner as will insure no disruption to the normal function of the sanitary sewer collection system. Particular attention shall be paid to the threat of introduction of storm water or other waters to the piping and manholes of the collection system. The Contractor shall take whatever precautions are necessary, such as, but not limited to installation of plugs in exposed pipes and manholes when work is not in progress or when leaving the work site. The Contractor will be held responsible for damages which may occur to either the collection system or to private property through introduction of storm water or other waters to exposed piping or manholes relating to the construction work.

## **SECTION 8 - PROSECUTION AND PROGRESS**

8.01 Subletting or Assigning of Contract. The Contractor will not be permitted to sublet, assign, sell, transfer, or otherwise dispose of the contract or any portion thereof or Contractor's right, title, or interest therein or to either legally or equitably assign any of the money payable under Contractor's contract or claim thereto without the written consent of Contractor's surety and the Engineer. The Contractor will not be relieved of any responsibility through any of the above actions.

8.02 Prosecution of Work. The bid for each project will show the contract period. The progress of the work shall be at a rate sufficient to complete the contract within the contract period. If it appears that the rate of progress is such that the contract will not be completed within the contract period or if the work is not being executed in a satisfactory and workmanlike manner, the City may order the Contractor to take such steps as it considers necessary to complete the contract within the period of time specified or to prosecute the work in a satisfactory manner. If the Contractor fails to comply with such order within two (2) weeks after receipt of the order, Contractor shall automatically be disqualified from receiving any additional contract awards, and the City shall have the right to declare the contract in default and to complete the work in accordance with these specifications under section entitled Abrogation.

The Contractor's sequence of operations shall be such as to cause as little inconvenience to the general public as possible.

The Contractor will be granted additional and suitable time for the prosecution of the work, as was lost by reason of a delay or delays attributable to other parties authorized to do work on the project over which the Contractor had no control or jurisdiction, as provided in these specifications under section entitled Extension of Contract Period.

8.03 Limitations of Operations. The Contractor shall conduct the work at all times in such a manner and in such sequence as will insure the least interference with traffic. Contractor shall have due regard to the location of detours and to the provisions of handling traffic. Contractor shall not open up work to the prejudice of work already started, and the Engineer may require the Contractor to finish a section on which work is in progress before work is started on any additional section. The Contractor shall so conduct operations and maintain the work in such condition that adequate drainage shall be in effect at all times.

8.04 Methods and Equipment. The methods, equipment, and appliances used shall produce a satisfactory quality of work and shall be adequate to maintain the schedule of progress specified. Equipment used on any portion of the project shall be such that no injury to the roadway, adjacent property, or other streets will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the construction are not prescribed in the contract, the Contractor is free to use any methods or equipment that is demonstrated to accomplish the contract work in conformity with the requirements of the contract to the satisfaction of the Engineer.

When the contract specifies that the construction be performed by the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer. If the Contractor desires to use a method or type of equipment other than those specified in the contract, a request may be made to the Engineer for authority to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed to be used and an explanation of the reasons for desiring to make the change. If approval is given, it will be on the condition that the contractor will be fully responsible for producing construction work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not

meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining construction with the specified methods and equipment. The Contractor shall remove the deficient work and replace it with work of specified quality or take such other corrective action as the Engineer may direct. No change will be made in basis of payment for the construction items involved nor in contract time as result of authorizing a change in methods or equipment under these provisions.

8.05 Temporary Suspension of Work. Work shall be suspended wholly or in part when, in the opinion of the Engineer, weather or other conditions are unfavorable to its satisfactory prosecution. Work shall also be suspended at the direction of the Engineer pending settlement of disputes arising out of failure of the Contractor to comply with the provisions of the contract. Written notice of suspension of work shall be given by the Engineer. When the conditions causing suspension no longer exist, such written notice shall be given to the Contractor by the Engineer. Promptly after such written notice, the Contractor shall resume prosecution of the work as provided in these specifications under section entitled Prosecution of Work.

8.06 Liquidated Damages. Time is an essential element of the contract, and it is important that the work be pressed vigorously to completion.

For each calendar day that any work shall remain uncompleted after the end of the contract period, the amount per calendar day specified in the bid form will be assessed, not as a penalty but as predetermined and agreed liquidated damages. The City will prepare and forward to the Contractor an invoice for such liquidated damages. The final payment will be withheld until payment shall have been made of this invoice.

Due account shall be taken of any adjustment of the contract period granted under the section of these specifications entitled Extension of Contract Period.

The assessment of liquidated damages for failure to complete the work within the contract period shall not constitute a waiver of the City's right to collect any additional damages which the City may sustain by failure of the Contractor to carry out the terms of the contract.

8.07 Extension of Contract Period. An extension of the contract period may be granted by the City for any of the following reasons:

1. Additional work resulting from a modification of the plans for the project
2. Delays caused by the City
3. Other reasons beyond the control of the Contractor which, in the City's judgment, would justify such extension.

No extension of contract period will be allowed for variations between contract quantities and actual quantities which cannot be predetermined and which amount to less than twenty percent (20%) of the contract quantities.

8.08 Abrogation. If the Contractor abandons, sublets, or assigns the work under this contract without the consent of the City, or if Contractor fails to give - personal attention to it, or if it is the Engineer's opinion, and is so certified in writing to the Contractor and the City, that the Contractor is violating any of the provisions of this contract or that Contractor is not prosecuting the work in good faith or at the rate of progress specified, or that Contractor has unnecessarily or unreasonably delayed or neglected the work or any part of it, written notice to that effect is to be given to the Contractor by the Engineer. After such notice, no materials or equipment shall be removed from the work. If, within five (5) days thereafter, the Contractor does not take steps, which in the judgment of the Engineer will insure the satisfactory completion of the work, then the City may declare this contract null and void and the security forfeited and may notify the Contractor in writing to discontinue the work or any part of it; thereupon ceasing the Contractor's right of possession of the ground and of all materials and equipment thereon. The City then, at

their option, may enter upon and take possession of the work with all materials, supplies, and equipment remaining thereon and by contract or otherwise, as the City may determine, may complete the work or the part of it designated and charge the expense thereof to the Contractor using any materials or equipment found on the site. The expense so charged, together with all damages incurred, will be deducted from any funds due or to become due under this contract and, should the unexpended balance of these funds be insufficient, the excess shall be at the cost of the Contractor and sureties on the Contractor's bond. Neither completion of a part of the work nor the extension for any reason of the time of the completion of the work is to be considered a waiver of this right to abrogate the contract for abandonment, delay, or unsatisfactory work.

8.09 Termination of Contractor's Responsibility. The contract shall be considered completed when the work has been accepted in writing by the City. Such acceptance shall release the Contractor from all further obligation with respect thereto, except as to conditions and requirement set forth in Contractor's bond.

## **SECTION 9 - MEASUREMENT AND PAYMENT**

9.01 Payments. Payments for estimated work completed will be made only on certificates of the Engineer at a regular City Council meeting.

The City, at its discretion, may include in such estimates payments for materials that will eventually be incorporated in the project, provided that such materials are suitably stored on the site of the project at the time of preparing estimates for payment. Such payment is to be based upon the estimated value thereof as ascertained by the Engineer. Such material when so paid for by the City shall not be removed from the project without consent of the City and, in case of default on the part of the Contractor; the City may use or cause to be used by others these materials in construction of the project.

The City will retain five percent (5%) of the estimated amount of work executed in an approved manner and of the approved materials and apparatus suitably stored on the site.

Payment of the retained five percent (5%) will be made within sixty (60) days after the formal approval and acceptance by the Engineer of all apparatus, materials, and work embraced in the contract.

9.02 Payments Withheld. The City may withhold or, on account of subsequently discovered evidence, nullify the whole or a part of any certificate to such extent as may be necessary to protect itself from loss on account of:

1. Defective work not remedied
2. Claims filed or reasonable evidence indicating probable filing of claims
3. Failure of the Contractor to make payments properly to subcontractors or for materials or labor
4. A reasonable doubt that the contract can be completed for the balance then unpaid
5. Damage to another contractor.

When the above grounds are removed, payment shall be made for amounts withheld because of them.

9.03 Acceptance and Final Payment. If final inspection reveals that all details of the work have been completed satisfactorily, the Engineer shall tentatively accept the work, in writing, relieving the Contractor of further responsibility for the care and maintenance of the completed work and, provided that all equipment and materials have been removed from the right-of-way, shall also relieve the Contractor of further public liability. As soon as possible after tentative

acceptance of the work, the Engineer shall measure the completed work and compute the quantities of work for which payment is to be made. Before final settlement is made, the City shall be satisfied with the completed work. When the Engineer is satisfied that all items of the work have been found to be consistent with the terms of the contract and specifications, a final estimate including the retained percentage due the Contractor shall be released for payment. Release of the final estimate shall constitute final acceptance of the work.

All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

Extra work - See these specifications under section entitled Extra Work.

9.04 Payment for Extra Work. The Contractor will receive and accept payment for work performed under the contract as follows:

1. Items of work performed which are covered by definite prices stipulated in the contract. For all items of work performed which are covered by definite unit prices or lump sum amounts specified in the contract, the Contractor shall receive and accept compensation at the rate specified in the contract.

2. Extra work ordered by the Engineer, of a quality or class not covered by the contract, will be paid for at an agreed price. For extra work ordered by the Engineer and performed on an agreed price basis, the Engineer and the Contractor shall enter into a written agreement, and have City Council approval, before such work is undertaken. This written agreement shall describe the extra work that is to be done and shall specify the agreed price or prices therefore.

**Revised 1-25-2011**

## **RECLOSER POLICY**

### **FOR ANY WORK ON OR NEAR CITY OF GRAND ISLAND OVERHEAD OR UNDERGROUND POWER LINES**

#### **PURPOSE**

This policy applies to anyone planning to work on or near power lines or conduits where there is a potential danger of electric shock, equipment damage, and/or injury. Examples include, but are not limited to, contractors, well drillers, crane operators, tree trimmers, and excavators. For purposes of this policy any party planning work will be referred to as "Contractor".

#### **PROCEDURE**

##### **I. CONTACT CITY OF GRAND ISLAND ELECTRIC DEPARTMENT**

Anyone wanting to do work on or near power lines shall consult the City of Grand Island Utilities Department 48 hours prior to doing any set up of equipment or actual work. (The City will not charge for this consultation.)

Contact List: First contact - Bryan Fiala (308) 390-5210  
Second contact - Randy Leiser (308) 390-5213  
Or - Larry Christensen (308) 390-5212  
Third contact - Power Dispatcher (308) 385-5465

Emergency Contact 24/7: - Utility Call Center (308) 385-5461

The City representative will evaluate the site and situation, and make a determination as to the proper course of action.

##### **II. POSSIBLE ACTIONS (TO BE DETERMINED BY THE CITY)**

- A. Maintain safe distance at all times. The City representative will recommend the required distance.
- B. Request the recloser be put in the "off" position. Note, the lines will remain energized, but will not automatically reclose if a fault is detected. (The City will not charge to turn the recloser off and on.)
- C. Cover the lines. This could be in addition to requesting the recloser off or a stand alone action. In this case a City line crew will come on site and physically cover the power lines with insulating socks, but the lines will remain energized. (The City will charge for this service.)



- D. Switch section of line out of service. City personnel will de-energize the line section. This could require up to 2 weeks advanced notice. (The City will charge for this service.)

### III. RECLOSER POLICY

If “Recloser Off” is the action determined, then the following applies.

#### A. Prior to work.

1. During the consultation, the Contractor and the City representative will jointly fill out the “Recloser Off Request Form”. Copies will be distributed as instructed on the form and repeated here.
  - a. Copy A. City field representative.
  - b. Copy B. Contractor on site.
  - c. Copy C. Contractor main office.
  - d. Copy D. City Power Dispatcher at Phelps Control Center.
2. Prior to beginning work each day, the Contractor on site will call the Phelps Control Center at (308) 385-5465 and do the following:
  - a. Provide the Recloser Off Request Form number from upper right corner of form.
  - b. Request recloser for appropriate feeder be turned “off”.
  - c. Provide an estimated completion time for that day.
3. The Power Dispatcher will do the following:
  - a. Match the form number with their own.
  - b. Verify the on site phone number.
  - c. Verify the requested feeder matches the feeder identified on the form.
  - d. Turn the recloser off.
  - e. Relay to the Contractor that the recloser is turned off for that feeder.
  - f. Announce over the City radio system that said recloser is off for said Contractor.

#### B. During work.

The recloser remains in the off position, but the line energized.

**KEY POINT** – *A fault anywhere on the feeder for any reason will cause an outage and the Power Dispatcher will receive an alarm. The Power Dispatcher will immediately contact the Contractor on site to verify whether or not the Contractor work caused the fault, and that all personnel and equipment are in the clear.*

C. After work.

1. Whenever the Contractor stops or completes work for an extended time, the onsite Contractor will call the Phelps Control Center at (308) 385-5465 and do the following:
  - a. Provide the Recloser Off Request Form number.
  - b. State that work is complete and all personnel and equipment are in the clear.
  - c. Request recloser for the appropriate feeder be turned “on”.
2. The Power Dispatcher will do the following, while the Contractor remains on the line:
  - a. Match the form number with their own.
  - b. Verify the requested feeder matches the feeder identified on the form.
  - c. Turn the requested recloser on.
  - d. Relay to the Contractor that the recloser for that feeder is turned on.
  - e. Announce over the City radio system that said recloser is on.

**KEY POINT** – *If the Contractor does not call when work is expected to be complete, such as at the end of a day, the Power Dispatcher will call the Contractor and verify work is complete, so the recloser does not remain off unnecessarily.*

\*\*\*\*\*

**Version History**

Version	Date	Action	By
1	10/2/1995	New document	
1	3/23/2011	Updated personnel reference.	Tom Barnes
2	5/2/2012	Total policy update.	Jeff Mead
2	2/2/2017	Phone number updates.	Jeff Mead

END



## UTILITIES DEPARTMENT

Current Revision: December 14, 2021

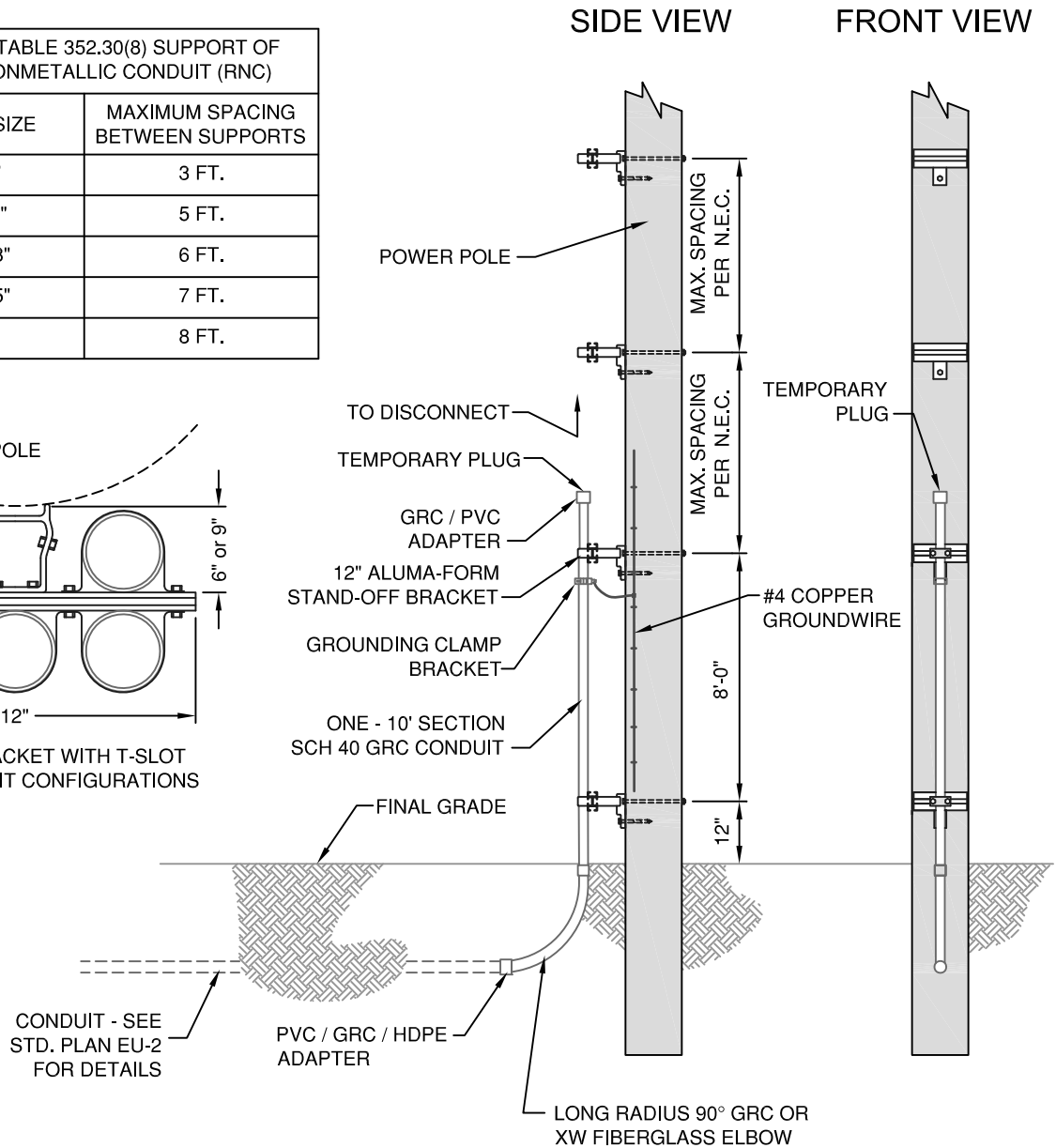
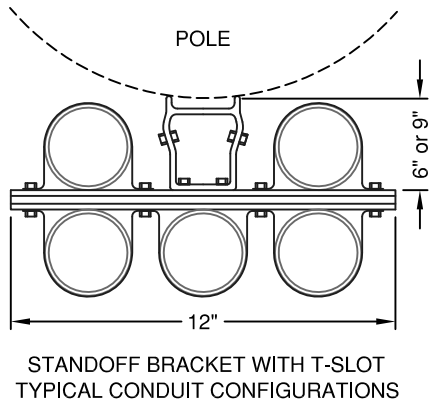
# Underground Electrical Standards

Underground

### UNDERGROUND

EU-1	RISER CONDUIT INSTALLATION (2 SHEETS)
EU-2	CONDUIT INSTALLATION
EU-3	TRENCH DETAIL
EU-4	TRANSFORMER PAD, 3 PHASE, 75 KVA - 1,000 KVA, (2 SHEETS)
EU-5	TRANSFORMER PAD, 3 PHASE, 1,500 KVA, (2 SHEETS)
EU-6	TRANSFORMER PAD, 1 PHASE (4 SHEETS)
EU-7	TRANSFORMER PAD, 3 PHASE, TYPE 1 PRE-FORMED CONCRETE - 9'X9'
EU-8	TRANSFORMER PAD, 3 PHASE, TYPE 2 PRE-FORMED CONCRETE - 9'X11'
EU-9	PROTECTIVE POSTS
EU-10	3 PHASE SECTIONALIZER CABINET- CONDUIT INSTALLATION
EU-11	SECTIONALIZER CABINET- DIMENSIONS
EU-12	PULL BOX- SPECIFICATIONS (12x12, 11x18, 24x36) (3 SHEETS)
EU-13	PULL BOX- SPECIFICATIONS FOR TYPE 5
EU-14	PULL BOX CONDUIT INSTALLATION
EU-15	SECONDARY PEDESTAL
EU-16	ELECTRICAL VAULT (2 SHEETS)
EU-17	UTILITY ENCLOSURE; 7' X 4' X 3' DEEP (2 SHEETS)
EU-18	UTILITY ENCLOSURE; 7' X 4' X 6' DEEP (2 SHEETS)
EU-19	UTILITY ENCLOSURE LID; 1 PHASE TRANSFORMER0 TYPE 1
EU-20	UTILITY ENCLOSURE LID; SOLID- TYPE 2
EU-21	FIBERGLASS BOX PAD FOR 3 PHASE SWITCH GEAR (3 SHEETS)
EU-22	VOID
DU-23	DEFERRAL CABINET; 1 PHASE

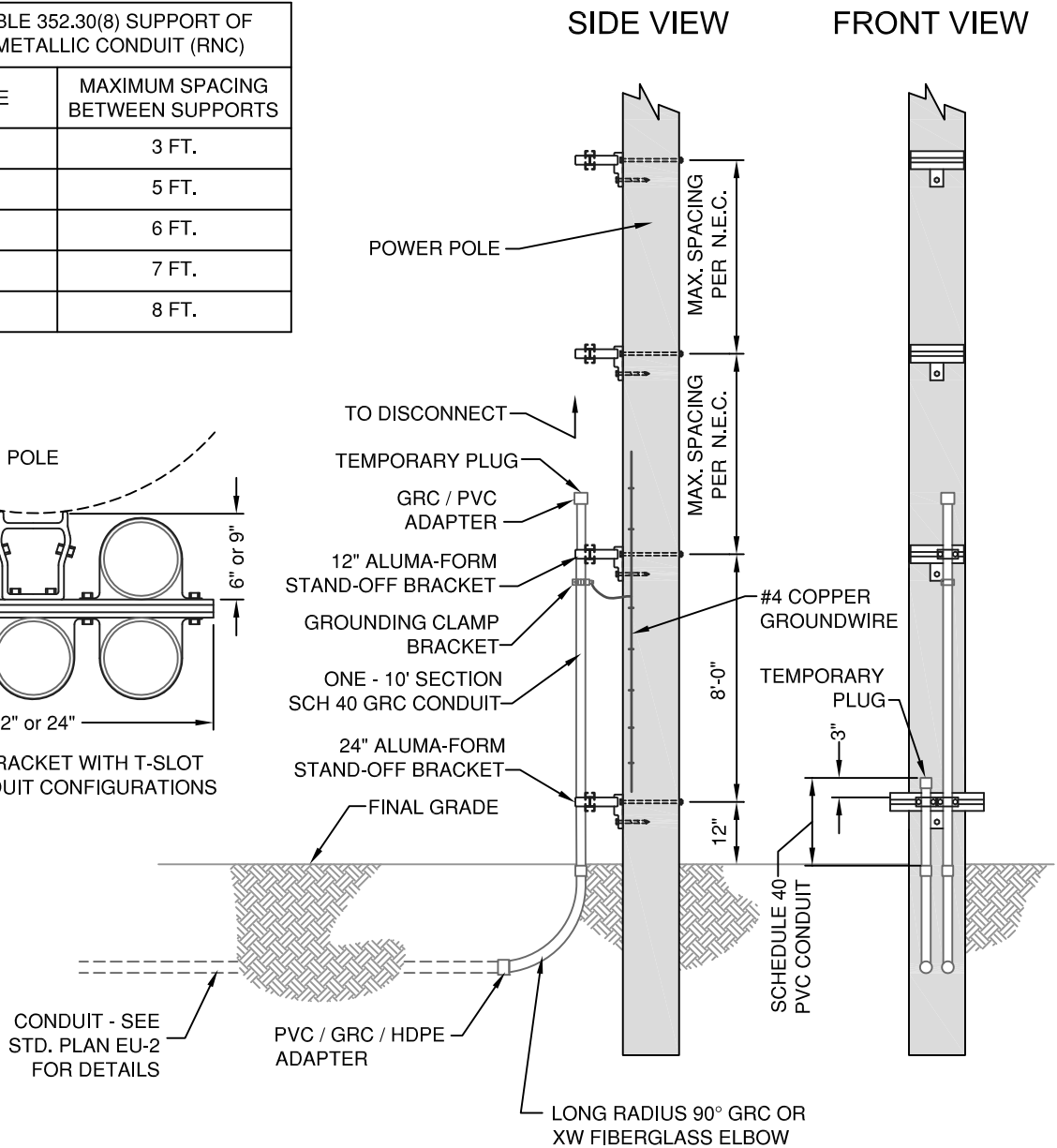
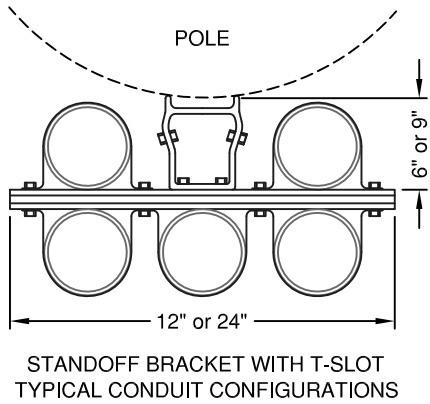
PER N.E.C. TABLE 352.30(8) SUPPORT OF RIDGED NONMETALLIC CONDUIT (RNC)	
CONDUIT SIZE	MAXIMUM SPACING BETWEEN SUPPORTS
1/2" - 1"	3 FT.
1-1/4" - 2"	5 FT.
2-1/2" - 3"	6 FT.
3-1/2" - 5"	7 FT.
6"	8 FT.



1. THE CONDUIT SHALL EXTEND UP THE RISER POLE ON THE SAME SIDE AS THE UTILITY DEPARTMENT INSTALLED DISCONNECT SWITCH.
2. CONDUIT SHALL BE SUPPORTED TO POLE USING CITY SUPPLIED ALUMA-FORM CONDUIT STANDOFF BRACKETS AND STRAPS.
3. ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

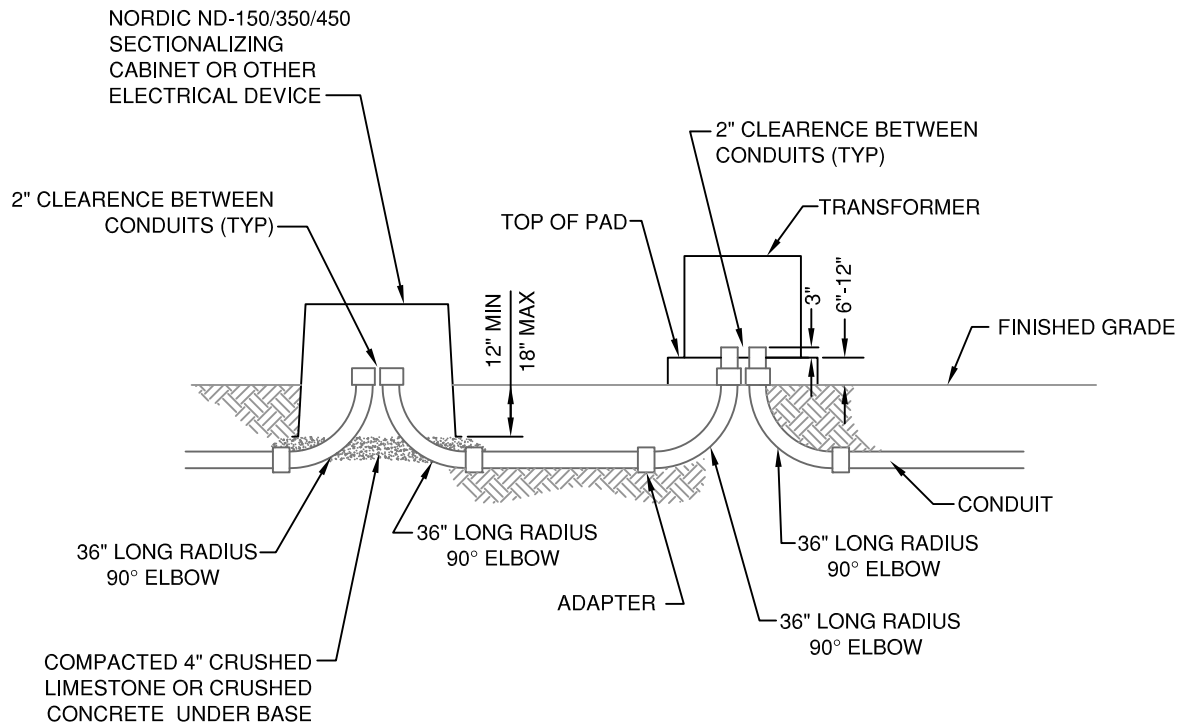
REV: 4/4/16

PER N.E.C. TABLE 352.30(8) SUPPORT OF RIDGED NONMETALLIC CONDUIT (RNC)	
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REV: 4/4/16



1. LONG RADIUS ELBOW AND ADAPTER MATERIAL TYPE TO BE DETERMINED BY CITY PRIOR TO CONDUIT INSTALLATION. (GRC, SCH. 40 PVC, EXTRA HEAVY-WALLED FIBERGLASS, ETC.)
2. FINISHED GRADE LOCATION TO BE DETERMINED BY CITY PRIOR TO INSTALLATION OF TRANSFORMER, SECTIONALIZING CABINET, OR OTHER ELECTRICAL DEVISE. (TOP OF CURB, FINISHED FLOOR ELEVATION, EXISTING GRADE, ETC.)
3. CONDUIT SHALL BE BEDDED IN SAND, UNLESS OTHERWISE APPROVED BY THE UTILITY DEPARTMENT INSPECTOR.
4. THE UTILITY DEPARTMENT SHALL FURNISH AND THE CONTRACTOR SHALL INSTALL A MARKER TAPE, ALONG AND ABOVE, ALL CONDUIT RUNS.
5. SCHEDULE 40 P.V.C. CONDUIT(S) SHALL BE USED THROUGHOUT ENTIRE PROJECT. USE ONLY CARLON QUICK SET P.V.C. GLUE-#VC9982.
6. H.D.P.E. PIPE MAY BE USED WITH APPROVAL OF THE G.I.U.D. INSTALLATION METHODS SHALL BE APPROVED BY THE G.I.U.D. PRIOR TO BEGINNING PROJECT.
7. ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

REV: 2/29/2012

REMOVE AND REPLACE CONCRETE OR ASPHALT AS REQUIRED TO MATCH EXISTING SURFACING WITH 8" 47-B CONCRETE OR 6" 47-B CONCRETE BASE w/ 2" BITUMINOUS ASPHALT SURFACING.

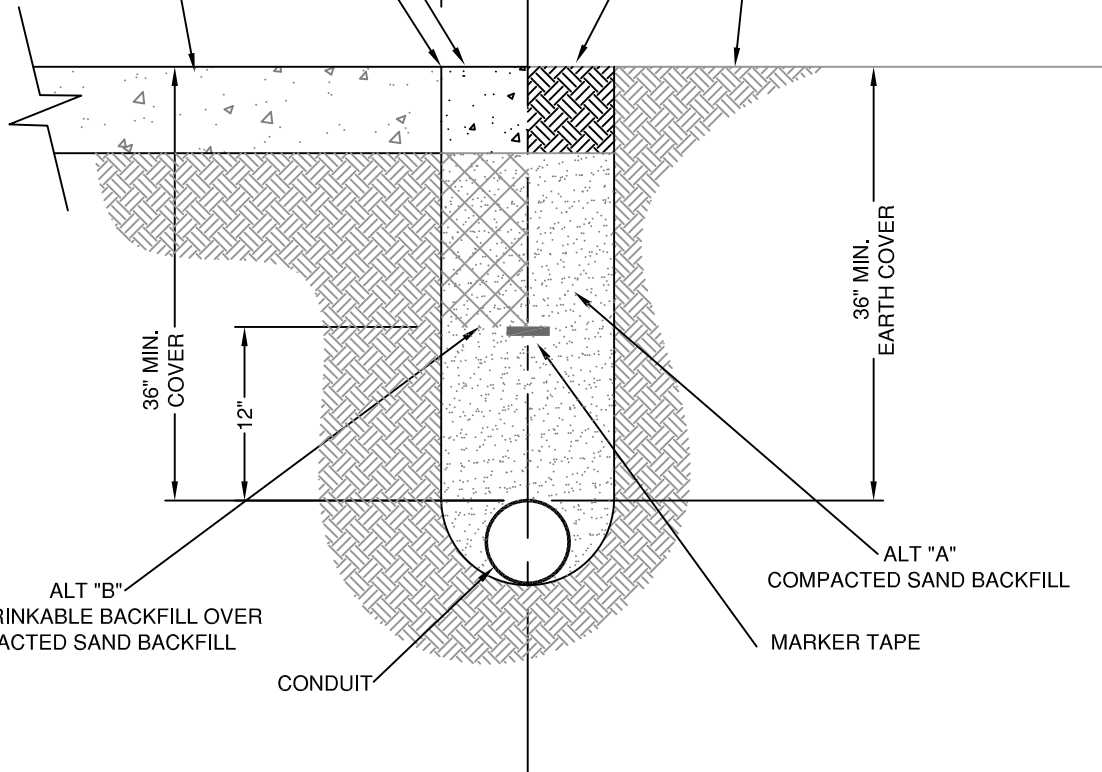
EXISTING CONCRETE OR ASPHALT SURFACING

SAWCUT EDGE

COMPACTED EARTH BACKFILL

6"

FINISHED GRADE



36" MIN. COVER

12"

36" MIN. EARTH COVER

ALT "B"

NON-SHRINKABLE BACKFILL OVER COMPACTED SAND BACKFILL

ALT "A"

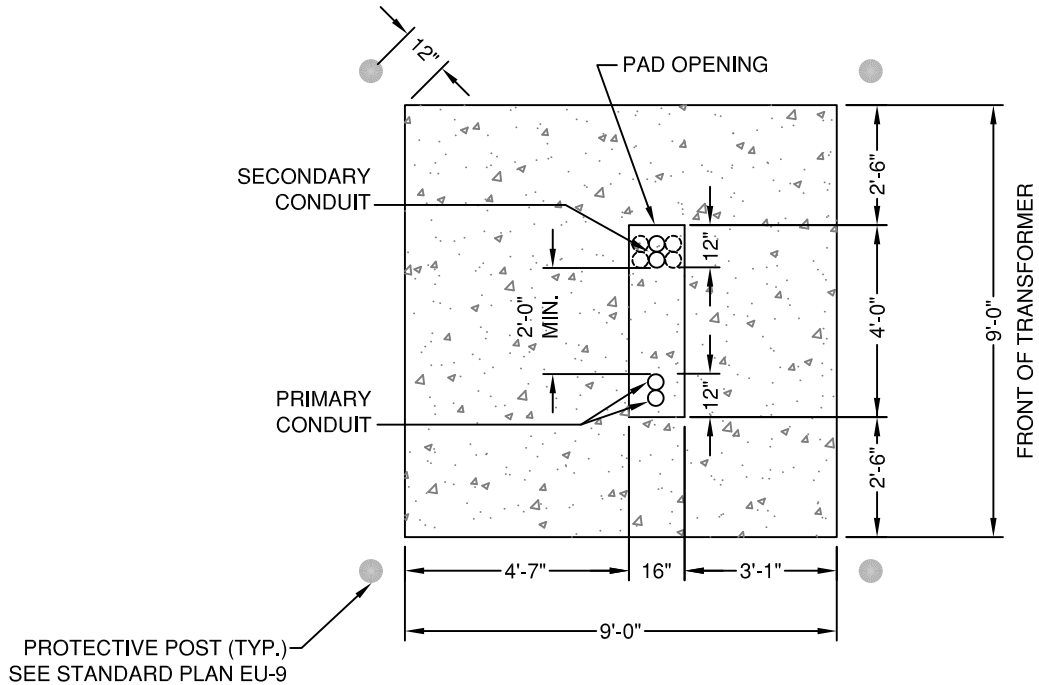
COMPACTED SAND BACKFILL

MARKER TAPE

CONDUIT

1. CONDUIT TO BE BEDDED IN SAND, UNLESS OTHERWISE APPROVED BY THE UTILITY DEPARTMENT INSPECTOR.
2. THE UTILITY DEPARTMENT SHALL FURNISH AND THE CONTRACTOR SHALL INSTALL A MARKER TAPE, ALONG AND ABOVE, ALL CONDUIT RUNS.
3. ALL BACKFILL METHODS SHALL BE AS APPROVED BY THE UTILITY DEPARTMENT INSPECTOR.
4. THE UTILITY DEPARTMENT INSPECTOR SHALL HAVE OPPORTUNITY TO INSPECT CONDUIT INSTALLATION PRIOR TO BACKFILLING.

REV: 2/29/2012

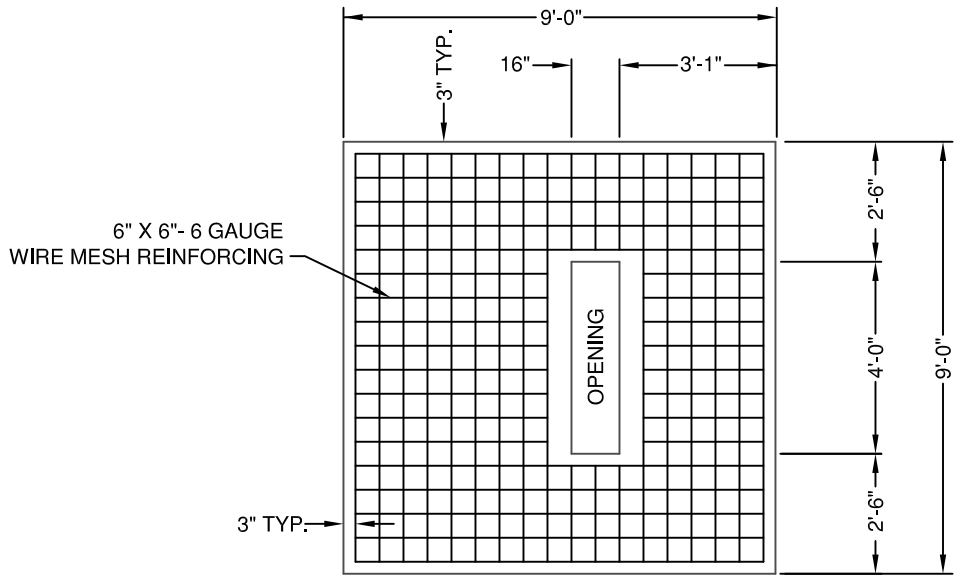


### TRANSFORMER PAD

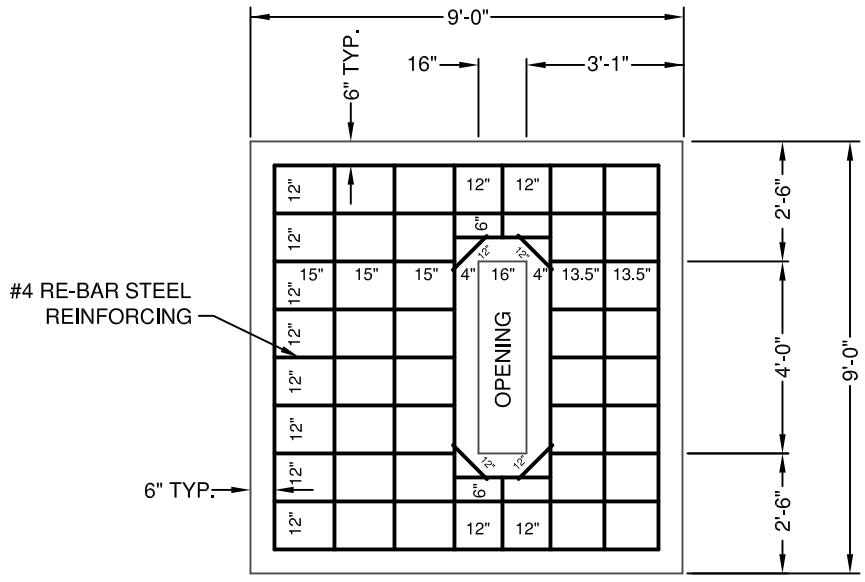
1. TRANSFORMER PADS TO BE TYPE 47-B MODIFIED CONCRETE AS PER CITY SPECIFICATIONS SECTION 2, DIVISION 2. PAD TO BE 12" THICK, REINFORCED WITH 6"x6"-6 GAUGE WIRE MESH OR #4 RE-BAR AS PER STANDARD PLAN EU-4, SHEET 2 OF 2.
2. TOP OF PAD TO BE SAME ELEVATION OF FINISHED FLOOR OR AS SPECIFIED BY UTILITY DEPARTMENT. ALL FORMS AND REINFORCING SHALL BE INSPECTED BY CITY ELECTRIC DEPARTMENT PRIOR TO PLACEMENT OF CONCRETE.
3. ELECTRICAL CONTRACTOR SHALL INSTALL CONCRETE FILLED PROTECTIVE POSTS AT EACH CORNER OF TRANSFORMER PAD. PROTECTIVE POSTS SHALL BE 3'-8" ABOVE AND 3 FEET BELOW FINISHED GRADE AS PER STANDARD PLAN EU-9. PROTECTIVE POSTS ARE TO PROTECT TRANSFORMER FROM TRAFFIC AND SHALL BE INSTALLED PRIOR TO THE SETTING OF TRANSFORMER BY UTILITY DEPARTMENT.
4. A MINIMUM OF 10 FEET SHALL BE MAINTAINED BETWEEN THE TRANSFORMER AND ANY STRUCTURE.
5. FRONT OF TRANSFORMER TO FACE \_\_\_\_\_ .

REVISED: 8/30/2021





**DETAIL "A"**  
6" x 6"- 6 GAUGE WIRE MESH



**DETAIL "B"**  
#4 RE-BAR

1. TRANSFORMER PADS TO BE TYPE 47-B MODIFIED CONCRETE AS PER CITY SPECIFICATIONS SECTION 2, DIVISION 2. PAD TO BE 12" THICK, REINFORCED WITH 6"x6"-6 GAUGE WIRE MESH (DETAIL "A") OR #4 RE-BAR (DETAIL "B").
2. TOP OF PAD TO BE 6" ABOVE FINISHED GRADE. ALL FORMS AND REINFORCING SHALL BE INSPECTED BY CITY ELECTRIC DEPARTMENT PRIOR TO PLACEMENT OF CONCRETE.
4. STEEL REINFORCING TO BE SUSPENDED 6" FROM SUB GRADE OF TRANSFORMER PAD.
5. ALL RE-BAR INTERSECTION CROSSINGS TO BE WIRE TIED TOGETHER.

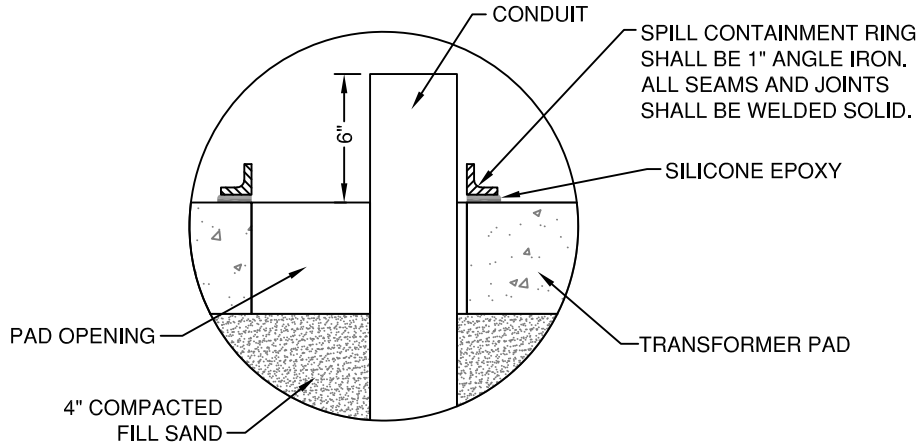
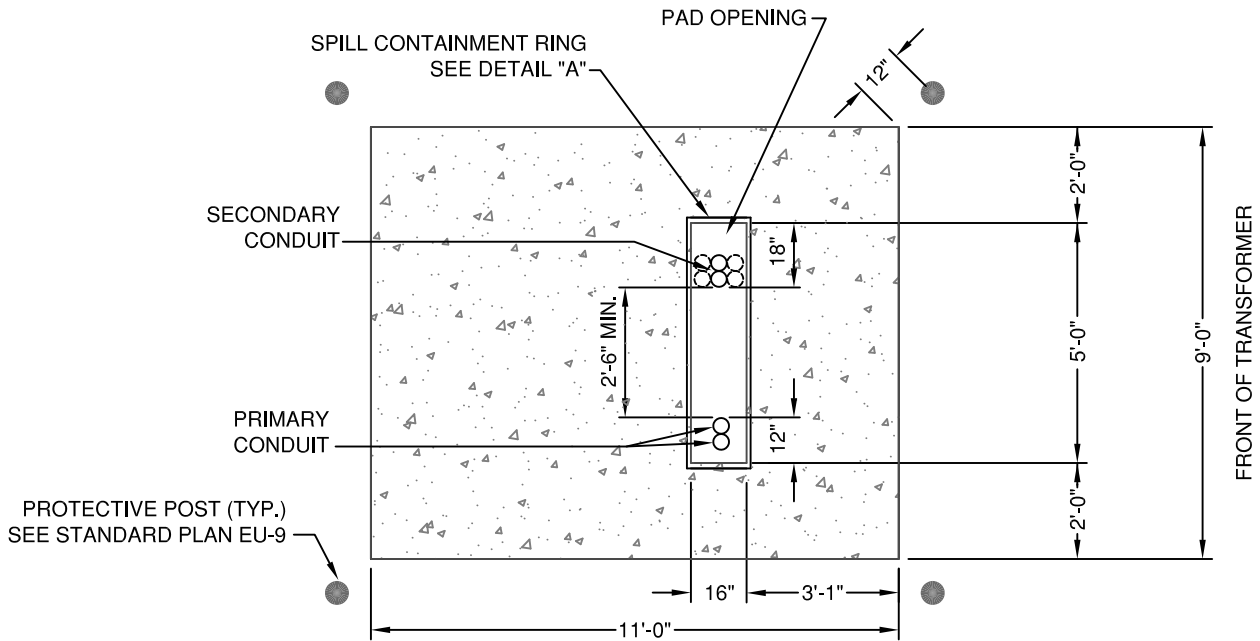
REVISED: 8/30/2021



DATE: 3/5/2012  
 DRAWN BY: K.J.M.  
 CHECKED BY: T.W.B.

75-1000 KVA 3Ø  
 TRANSFORMER PAD  
 REINFORCING

PLAN  
 EU - 4  
 2 OF 2



**DETAIL "A"**

1. SERVICE TO BE \_\_\_\_\_ V.A.C.
2. TRANSFORMER PADS TO BE TYPE 47-B MODIFIED CONCRETE AS PER CITY SPECIFICATIONS SECTION 2, DIVISION 2. PAD TO BE 12" THICK, REINFORCED WITH 6"x6"-6 GAUGE WIRE MESH OR #4 RE-BAR AS PER STANDARD PLAN EU-5, SHEET 2 OF 2.
3. TOP OF PAD TO BE SAME ELEVATION OF FINISHED FLOOR OR AS SPECIFIED BY UTILITY DEPARTMENT. ALL FORMS AND REINFORCING SHALL BE INSPECTED BY CITY ELECTRIC DEPARTMENT PRIOR TO PLACEMENT OF CONCRETE.
4. ELECTRICAL CONTRACTOR SHALL INSTALL CONCRETE FILLED PROTECTIVE POSTS AT EACH CORNER OF TRANSFORMER PAD. PROTECTIVE POSTS SHALL BE 3'-8" ABOVE AND 3 FEET BELOW FINISHED GRADE AS PER STANDARD PLAN EU-9. PROTECTIVE POSTS ARE TO PROTECT TRANSFORMER FROM TRAFFIC AND SHALL BE INSTALLED PRIOR TO THE SETTING OF TRANSFORMER BY UTILITY DEPARTMENT.
5. A MINIMUM OF 10 FEET SHALL BE MAINTAINED BETWEEN THE TRANSFORMER AND ANY STRUCTURE.
6. FRONT OF TRANSFORMER TO FACE \_\_\_\_\_ .

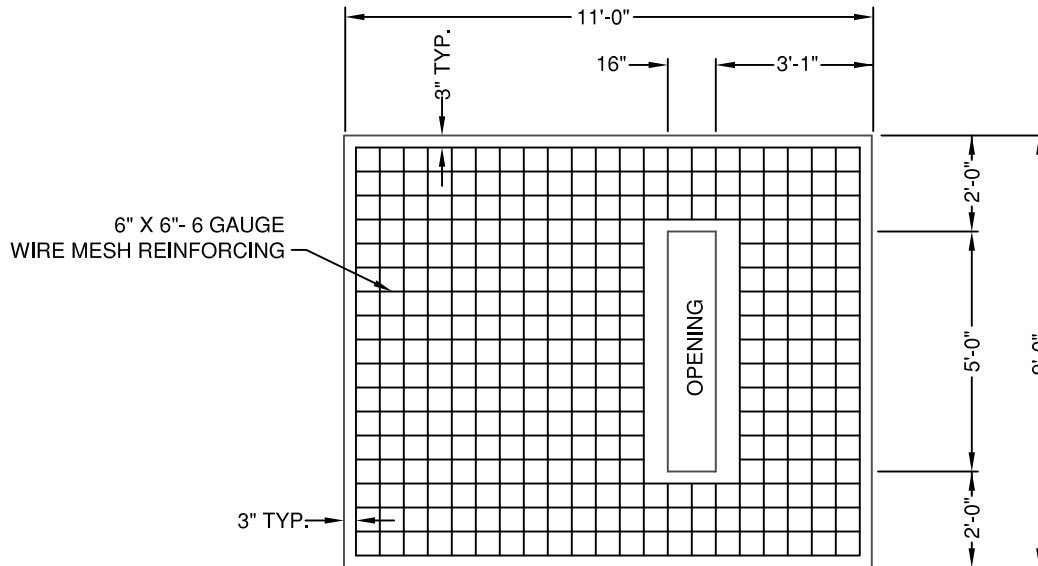
REVISED: 8/30/2021



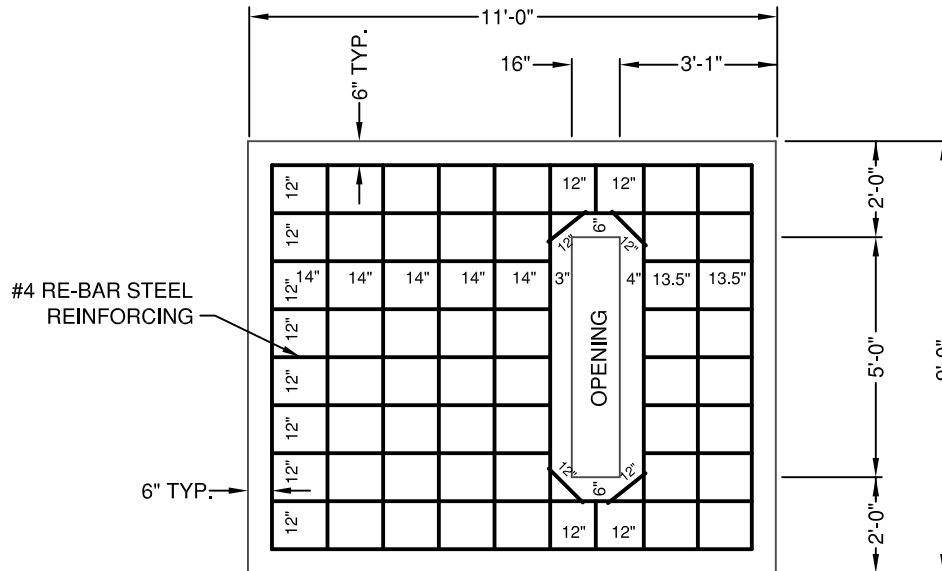
DATE: 4/12/1996  
 DRAWN BY: P.S.L.  
 CHECKED BY: T.W.B.

1500-2500 KVA  
 3Ø TRANSFORMER  
 PAD

PLAN  
 EU - 5  
 1 OF 2



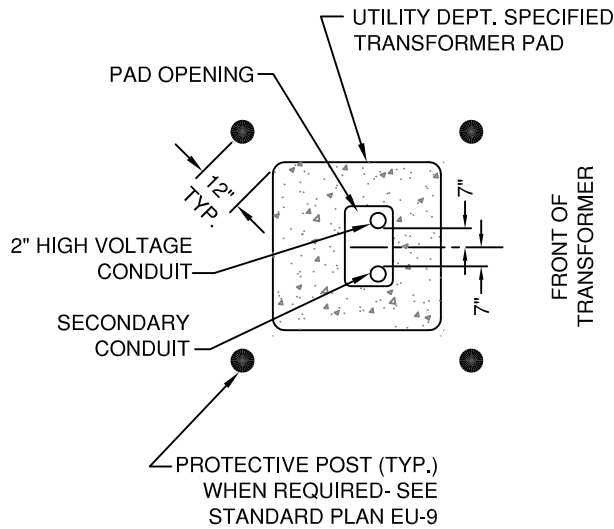
**DETAIL "A"**  
6" x 6"- 6 GAUGE WIRE MESH



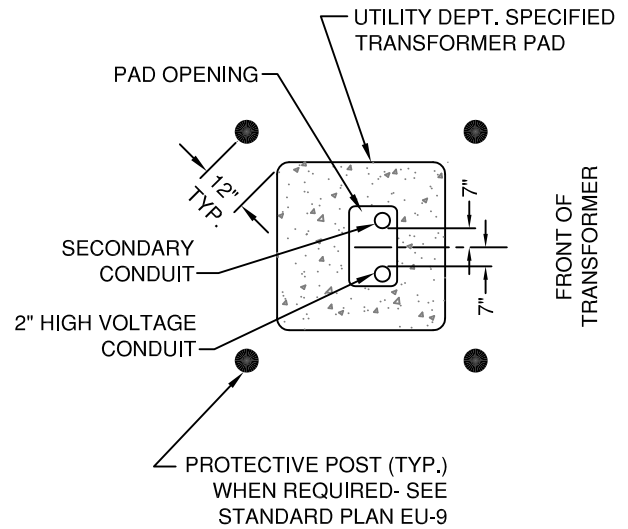
**DETAIL "B"**  
#4 RE-BAR

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2. TOP OF PAD TO BE 6" ABOVE FINISHED GRADE. ALL FORMS AND REINFORCING SHALL BE INSPECTED BY CITY ELECTRIC DEPARTMENT PRIOR TO PLACEMENT OF CONCRETE.
4. STEEL REINFORCING TO BE SUSPENDED 6" FROM SUB GRADE OF TRANSFORMER PAD.
5. ALL RE-BAR INTERSECTION CROSSINGS TO BE WIRE TIED TOGETHER.

REVISED: 8/30/2021



120/240 V.A.C.  
1 PHASE LOW PROFILE  
 DEAD FRONT  
 TRANSFORMER PAD



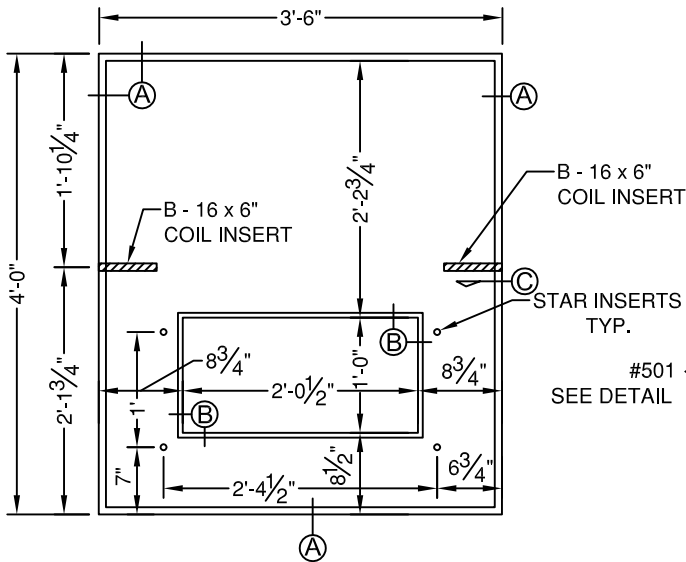
120/240 V.A.C.  
1 PHASE STANDARD  
 DEAD FRONT  
 TRANSFORMER PAD

1. ELECTRICAL CONTRACTOR SHALL INSTALL CONCRETE FILLED PROTECTIVE POSTS AT EACH CORNER OF TRANSFORMER PAD. PROTECTIVE POSTS SHALL BE 3'-8" ABOVE AND 3 FEET BELOW FINISHED GRADE AS PER STANDARD PLAN EU-9. PROTECTIVE POSTS ARE TO PROTECT TRANSFORMER FROM TRAFFIC AND SHALL BE INSTALLED PRIOR TO THE SETTING OF TRANSFORMER BY UTILITY DEPARTMENT.
2. A MINIMUM OF 10 FEET SHALL BE MAINTAINED BETWEEN THE TRANSFORMER AND ANY STRUCTURE.
3. FRONT OF TRANSFORMER TO FACE \_\_\_\_\_.
4. ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

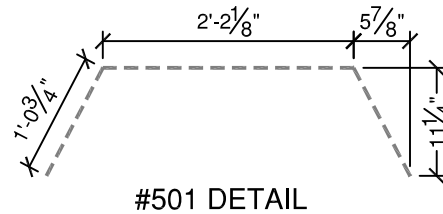
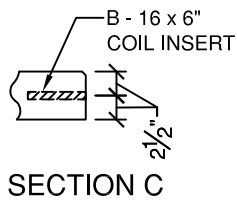
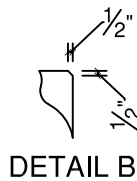
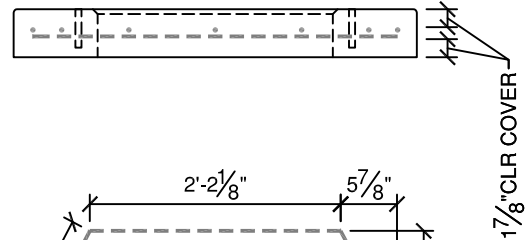
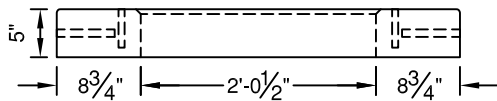
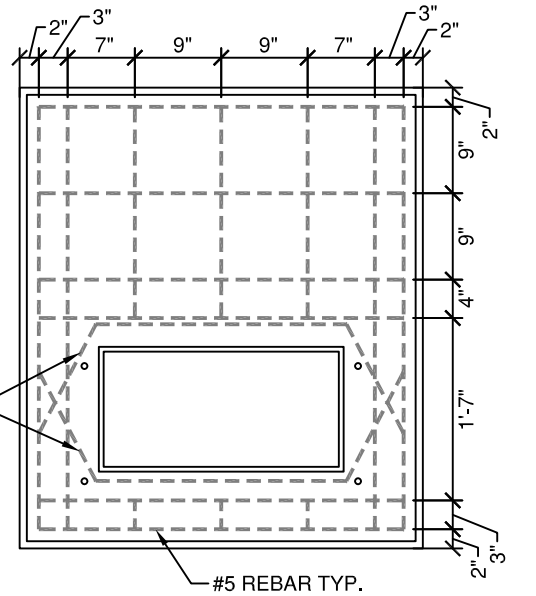
REVISED: 8/20/2013

<p>CITY OF  <b>GRAND ISLAND</b>      UTILITIES DEPARTMENT</p>	<p>DATE: 8/20/2013          DRAWN BY: P.F.G.          CHECKED BY: T.W.B.</p>	<p>1Ø TRANSFORMER PAD          CONDUIT LOCATIONS</p>	<p>PLAN          EU - 6          1 of 4</p>
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### DIMENSIONS

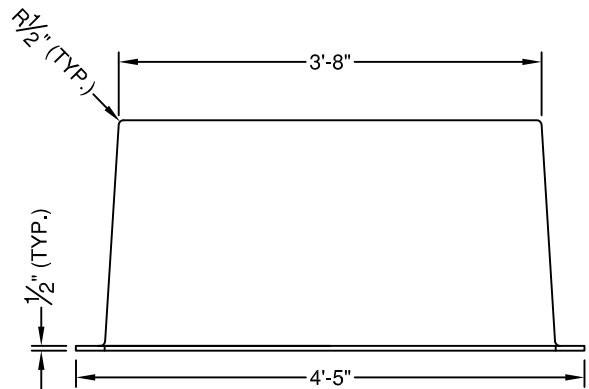
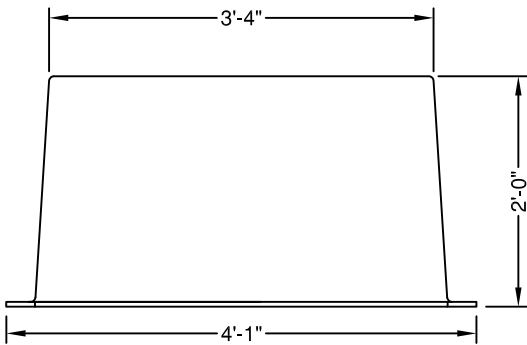
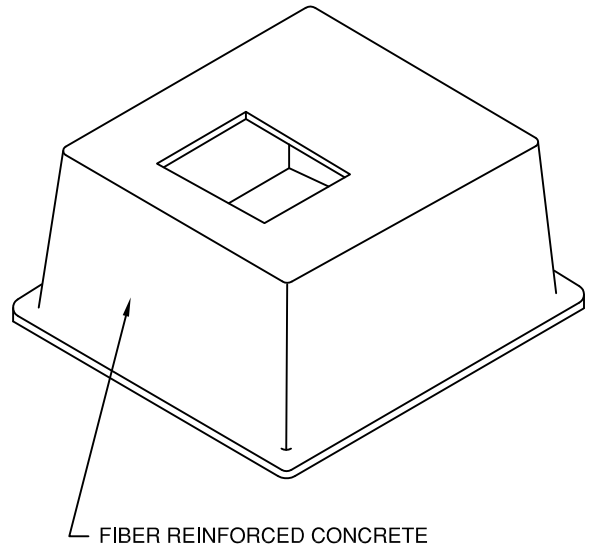
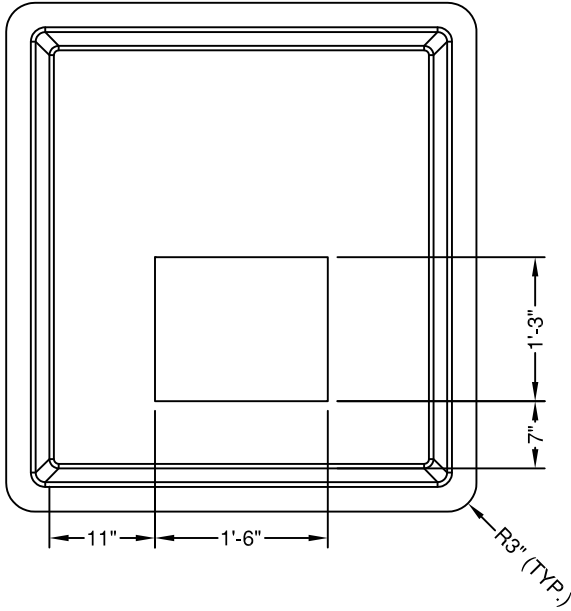


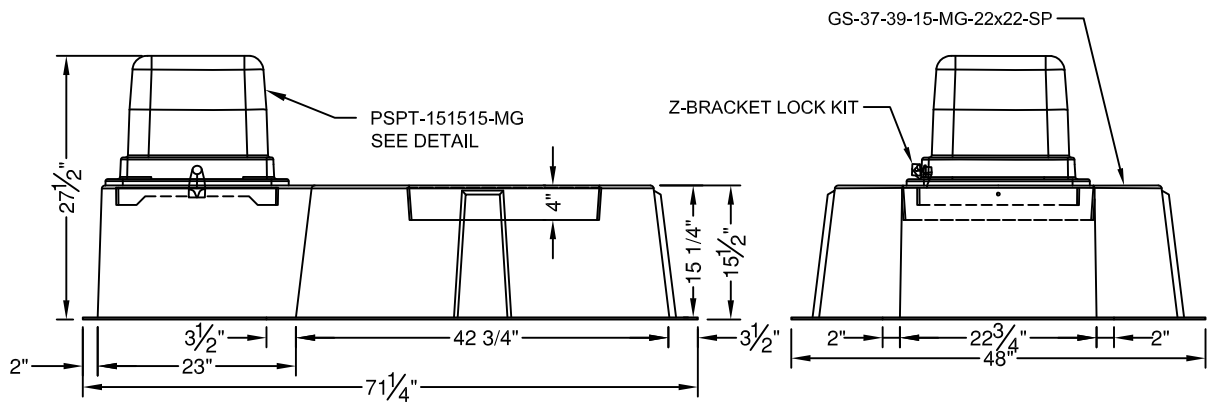
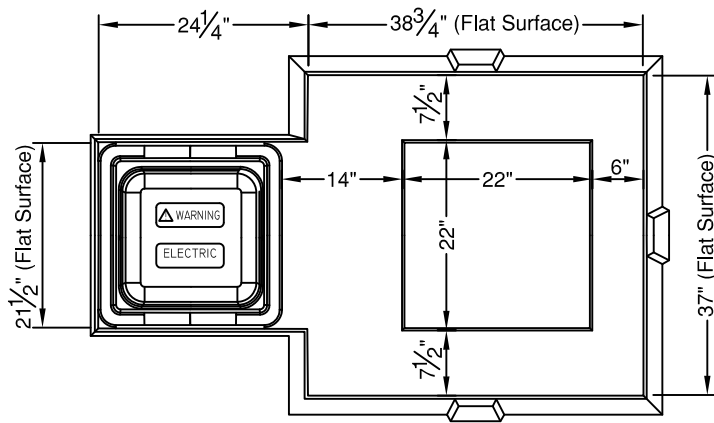
### REBAR LAYOUT



### MATERIALS

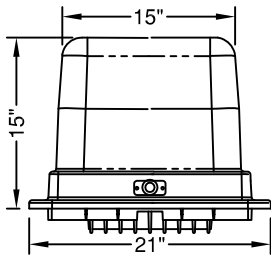
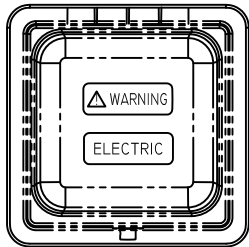
DESCRIPTION	UNIT	QUANTITIES
5/8" dia. X 2" Star Insert	EA.	4
B - 16 x 6" Coil Insert	EA.	2
#5 x 1' - 0" Rebar	EA.	4
#5 x 3' - 2" Rebar	EA.	7
#5 x 3' - 8" Rebar	EA.	8
#501 Rebar (SEE DETAIL)	EA.	2



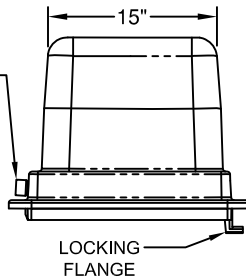


PSPT-151515-MG DETAIL

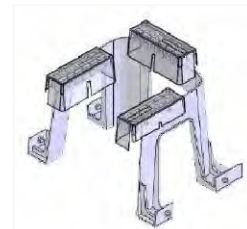
OPTIONAL PLASTIC BRACKETS W/CONNECTORS



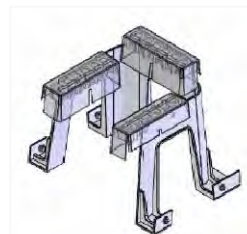
SST LOCK WITH PENTAHEAD BOLT



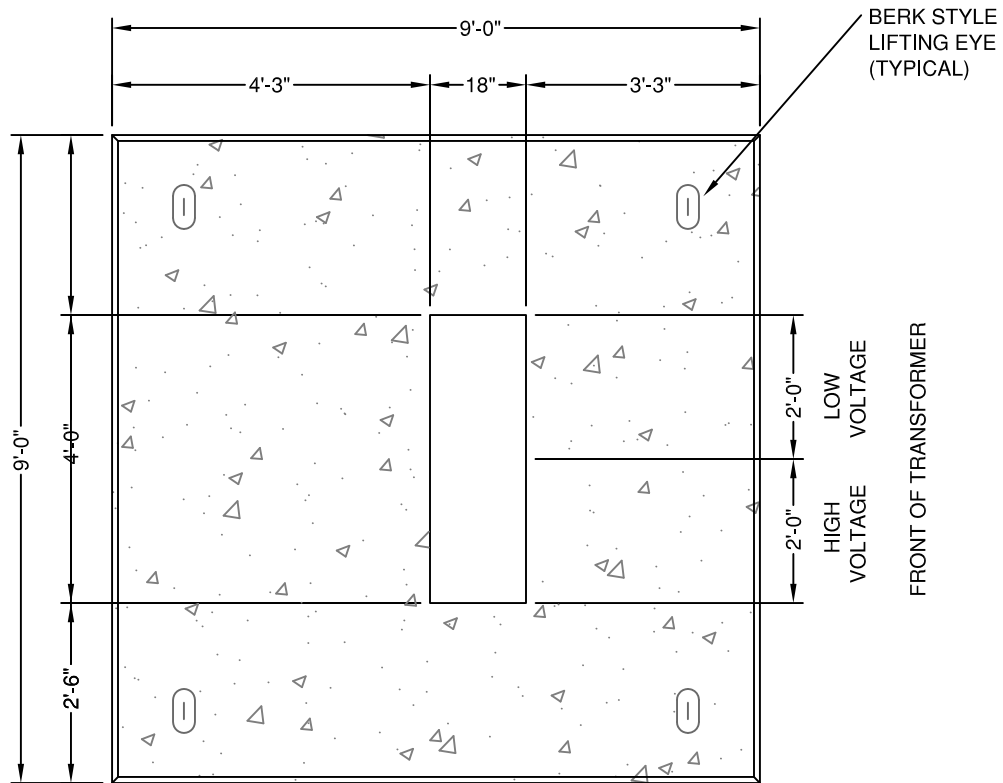
LOCKING FLANGE



99-PSP-CB-15-L6350



99-PSP-CB-15-L6600

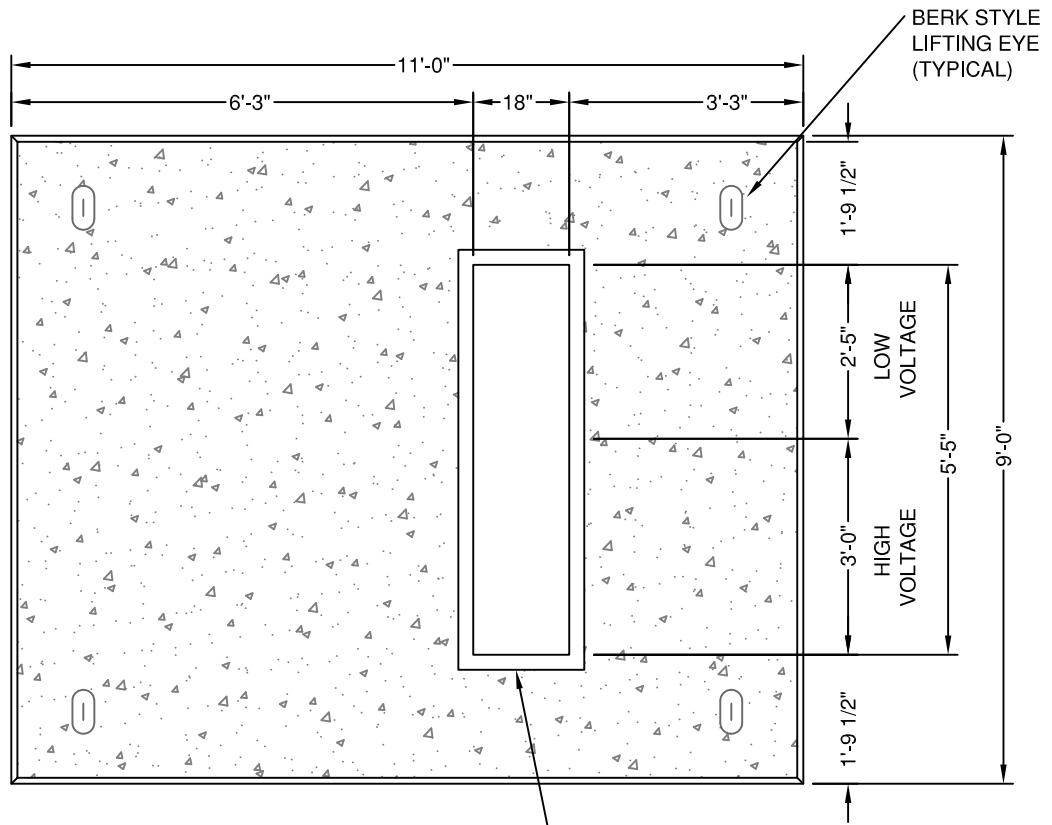


NOTES:

1. ALL TRANSFORMER PADS SHALL BE TYPE 47-B MODIFIED REINFORCED CONCRETE - 12" THICK.
2. ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

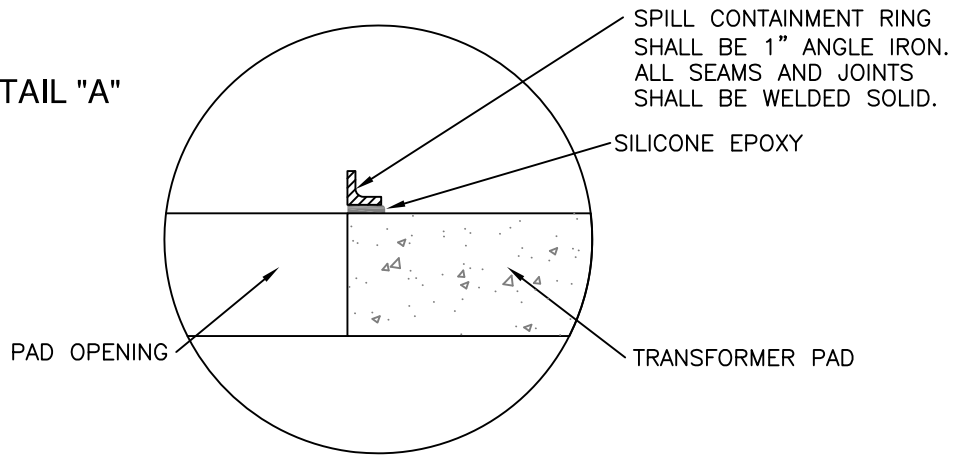
REV: 2/28/2005 PFG





SPILL CONTAINMENT RING  
SEE DETAIL "A"

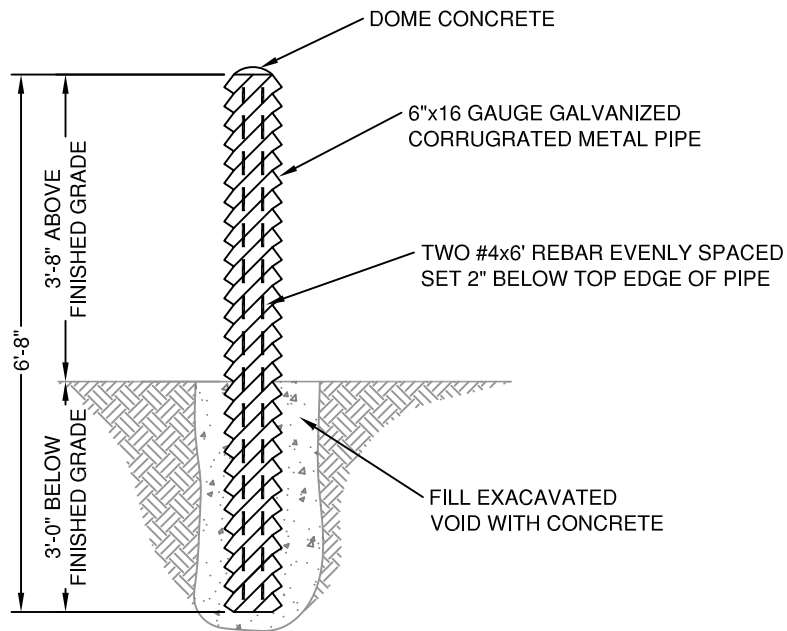
DETAIL "A"



NOTES:

1. ALL TRANSFORMER PADS SHALL BE TYPE 47-B MODIFIED REINFORCED CONCRETE - 12" THICK.
2. ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

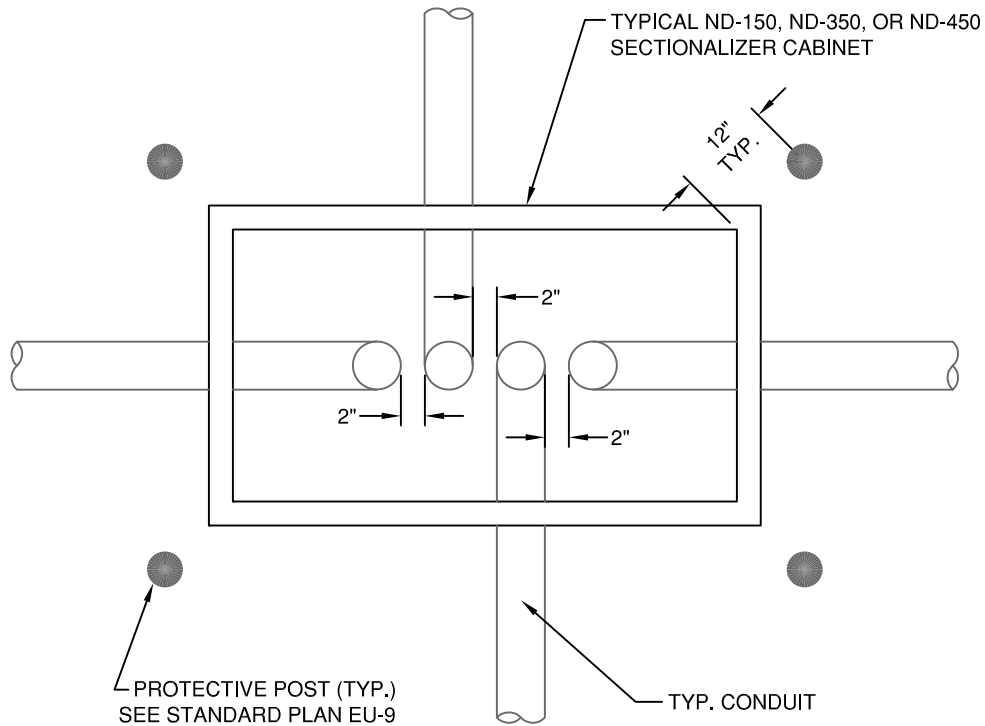
REV: 2/28/2005 PFG  
REV: 6/5/2003



TYPE 47-B CONCRETE REQUIRED  
 VOLUME-1.4 CU. FT.  
 FILLED WT.-APPROX. 235 LBS. EA.

ELECTRICAL CONTRACTOR SHALL INSTALL CONCRETE FILLED PROTECTIVE POSTS AT EACH CORNER OF TRANSFORMER PAD, SECTIONALIZER, AND VAULT, OR AS OTHERWISE DIRECTED BY THE UTILITY DEPARTMENT. PROTECTIVE POSTS SHALL BE 3'-8" ABOVE AND 3 FEET BELOW FINISHED GRADE. POSTS ARE TO PROTECT ELECTRICAL INFRASTRUCTURE FROM TRAFFIC AND SHALL NOT INTERFERE WITH DOOR OPENINGS. POSTS SHALL BE INSTALLED PRIOR TO THE TRANSFORMER BEING SET.

REV. 6/5/2003  
 REV. 4/25/2001  
 REV. 2/2000

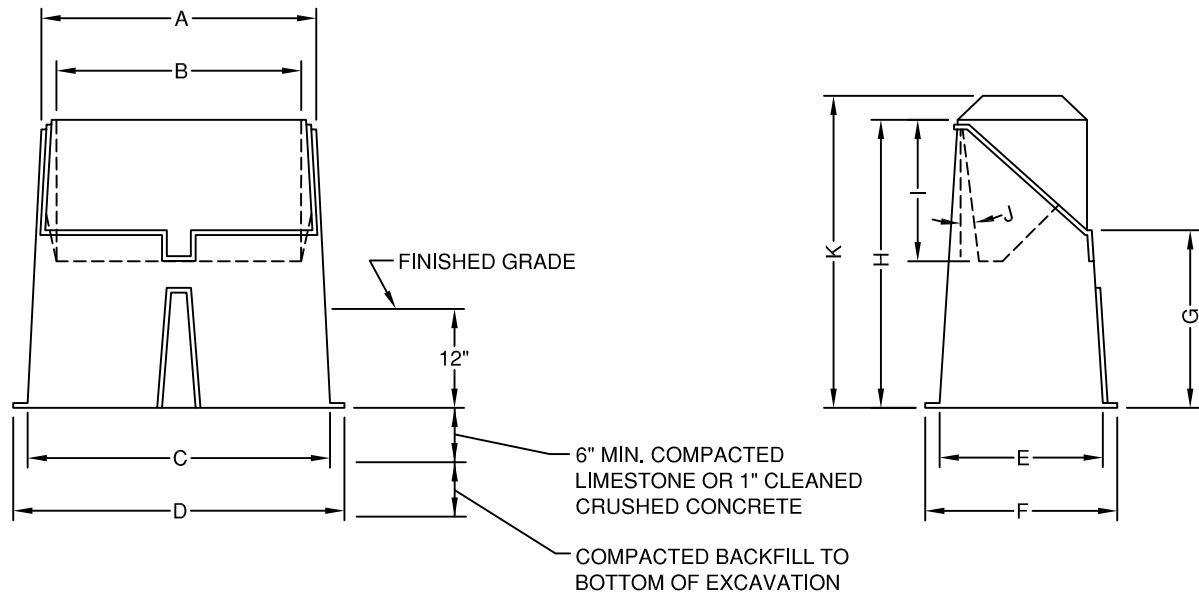


NOTES:

1. ELECTRICAL CONTRACTOR SHALL INSTALL CONCRETE FILLED PROTECTIVE POSTS AT EACH CORNER OF SECTIONALIZER **AFTER** UTILITY DEPARTMENT HAS INSTALLED CABINET. PROTECTIVE POSTS SHALL BE 3'-8" ABOVE AND 3 FEET BELOW FINISHED GRADE. POSTS ARE TO PROTECT ELECTRICAL INFRASTRUCTURE FROM TRAFFIC AND SHALL NOT INTERFERE WITH DOOR OPENINGS.
2. HIGH VOLTAGE CONDUITS SHALL BE CENTERED AND IN A STRAIGHT LINE, WITH 2" CLEARANCE BETWEEN CONDUITS.

REV: 12/9/2011

## SPECIFICATIONS FOR SECTIONALIZING CABINET



DIEMENSIONS:		A	B	C	D	E	F	G	H	I	J	K
NORDIC ND-450	3 PHASE:	74.5"	66"	82"	89.5"	43.5"	50.5"	35"	61"	15"	5°	64"
NORDIC ND-350	3 PHASE:	57"	51"	63"	74.5"	34"	45"	37"	48"	15"	5°	53"
NORDIC ND-150	1 PHASE:	26"	21"	32"	39"	36"	43"	28"	48"	15"	5°	52"

CABINETS SHALL BE FIBERGLASS - SUNLIGHT RESISTEANT.

CABINETS SHALL INCORPORATE GROUND SLEEVE PRINCIPAL INTO MOUNTING BASE WITH MINIMUM 3-1/2" LIP AROUND BASE FOR STABILITY.

3Ø MOUNTING BOARD SHALL BE A MINIMUM OF 51" WIDE BY 15" HIGH TO ALLOW SPACE FOR THREE 4 POINT 15KV LOAD BREAK JUNCTIONS WITH 2 STAINLESS STEEL PARKING STANDS.

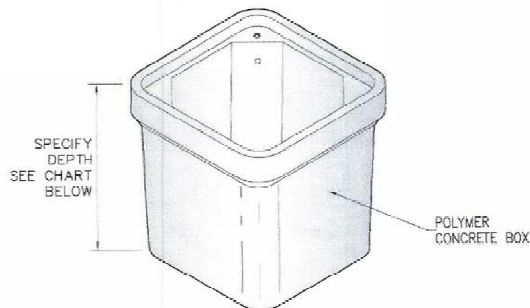
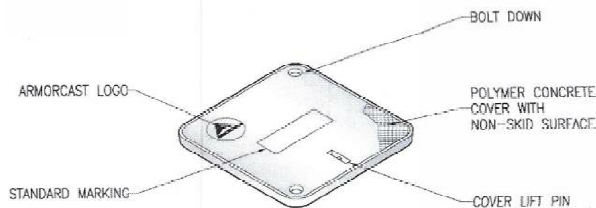
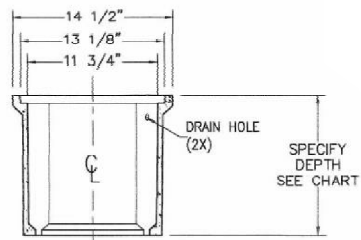
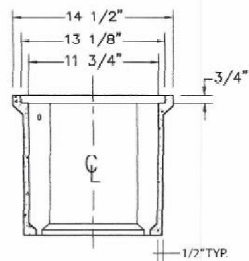
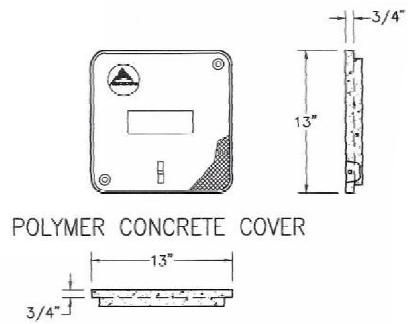
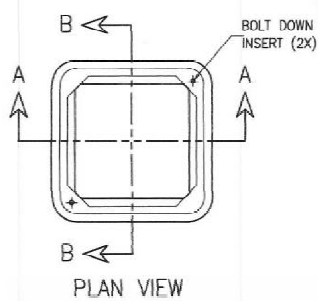
1Ø MOUNTING BOARD SHALL BE A MINIMUM OF 21" WIDE BY 15" HIGH TO ALLOW SPACE FOR ONE 4 POINT 15KV LOAD BREAK JUNCTIONS WITH 2 STAINLESS STEEL PARKING STANDS.

MOUNTING BOARD SHALL BE AT 5 DEGREES FROM VERTICAL FOR COMFORTABLE OPERATION OF LOAD BREAK ELBOWS.

STAINLESS STEEL DOOR PROPS SHALL BE PROVIDED.

ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

REV: 12/9/2011



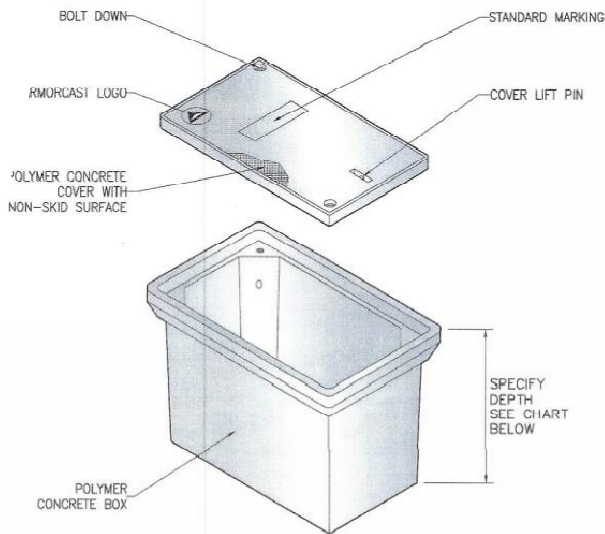
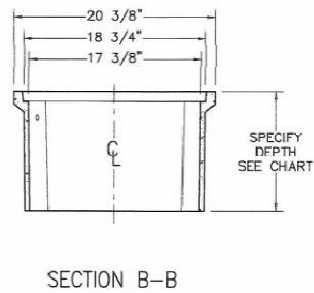
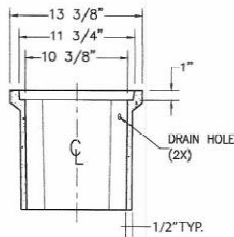
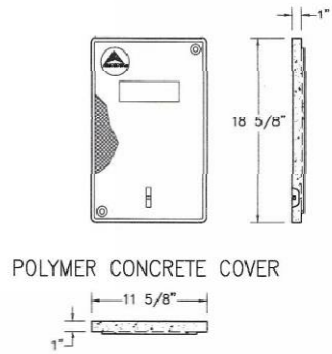
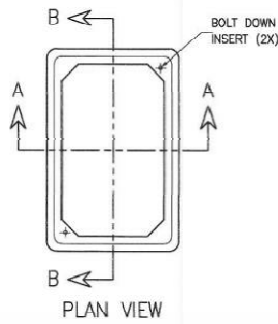
**12"W x 12"L BOX ASSEMBLIES** Specify Depth Below

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	ANSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY.
Box & Cover Assembly	12" x 12" x 12"	10K	8	A6001423A	42 lbs.	27
	12" x 12" x 12"	20K	15 / 22	A6001423TA / A6001423HD	46 lbs.	27
Box & Cover Assembly	12" x 12" x 24"	10K	8	A6001423AX24	72 lbs.	9
	12" x 12" x 24"	20K	15 / 22	A6001423TAX24 / A6001423HDAX24	76 lbs.	9

**COMPONENTS**

MORE COVER VARIATIONS ARE AVAILABLE IN OUR "COVER SECTION"

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	ANSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY.
Replacement Covers	12" x 12"	10K	8	A6001422	15 lbs.	50
	12" x 12"	20K	15	A6001422T	19 lbs.	50
Replacement Boxes	12" x 12" x 12"	10K / 20K	22	A6001423	27 lbs.	18
	12" x 12" x 24"	10K / 20K	22	A6001423X24	57 lbs.	9



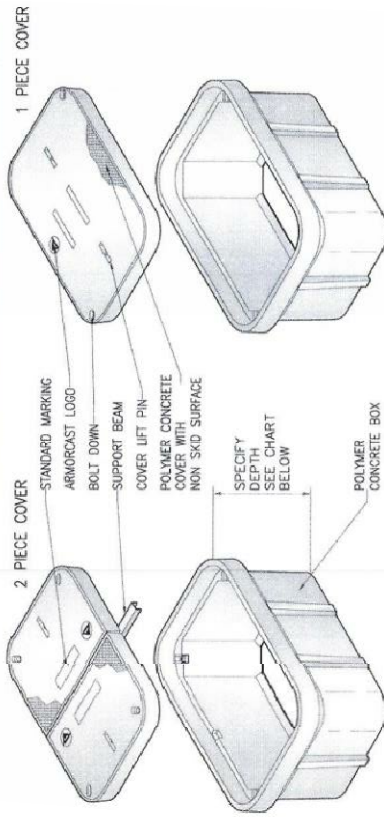
**11"W x 18"L BOX ASSEMBLIES** Specify Depth Below

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	ANSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY.
Box & Cover Assembly	11" x 18" x 12"	10K	8	A6001429A	47 lbs.	18
	11" x 18" x 12"	20K	15 / 22	A6001429TA / A6001429HDA	47 lbs.	18
Box & Cover Assembly	11" x 18" x 18"	10K	8	A6001429AX18	71 lbs.	12
	11" x 18" x 18"	20K	15 / 22	A6001429TAX18 / A6001429HDAX18	71 lbs.	12

**COMPONENTS**

MORE COVER VARIATIONS ARE AVAILABLE IN OUR "COVER SECTION"

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	ANSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY.
Replacement Covers	11" x 18"	10K	8	A600142B	15 lbs.	50
	11" x 18"	20K	15	A600142BT	15 lbs.	50
Replacement Boxes	11" x 18" x 12"	10K / 20K	22	A6001429	32 lbs.	18
	11" x 18" x 18"	10K / 20K	22	A6001429X18	56 lbs.	12

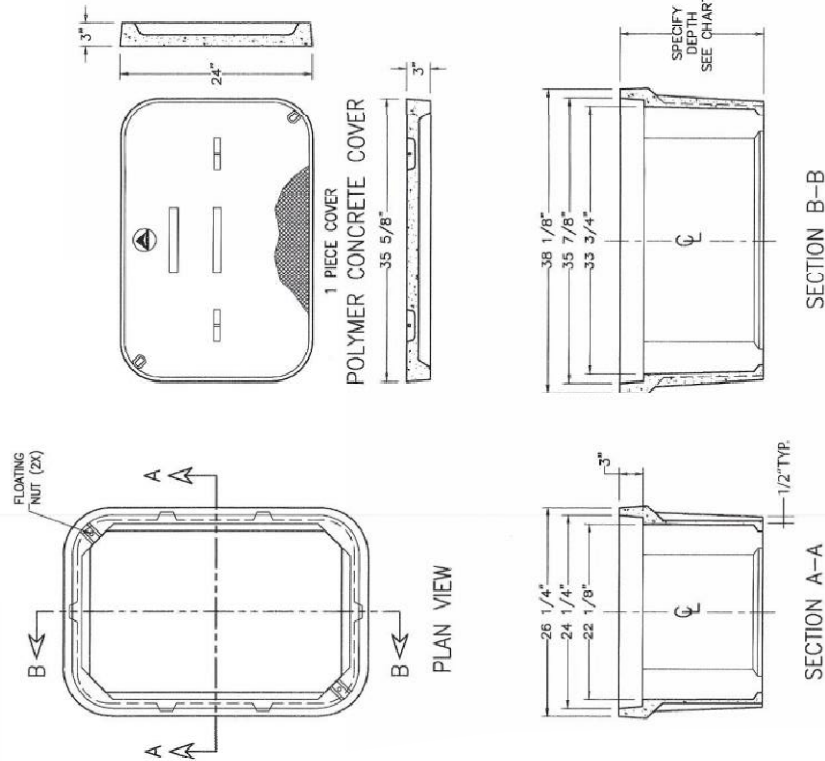


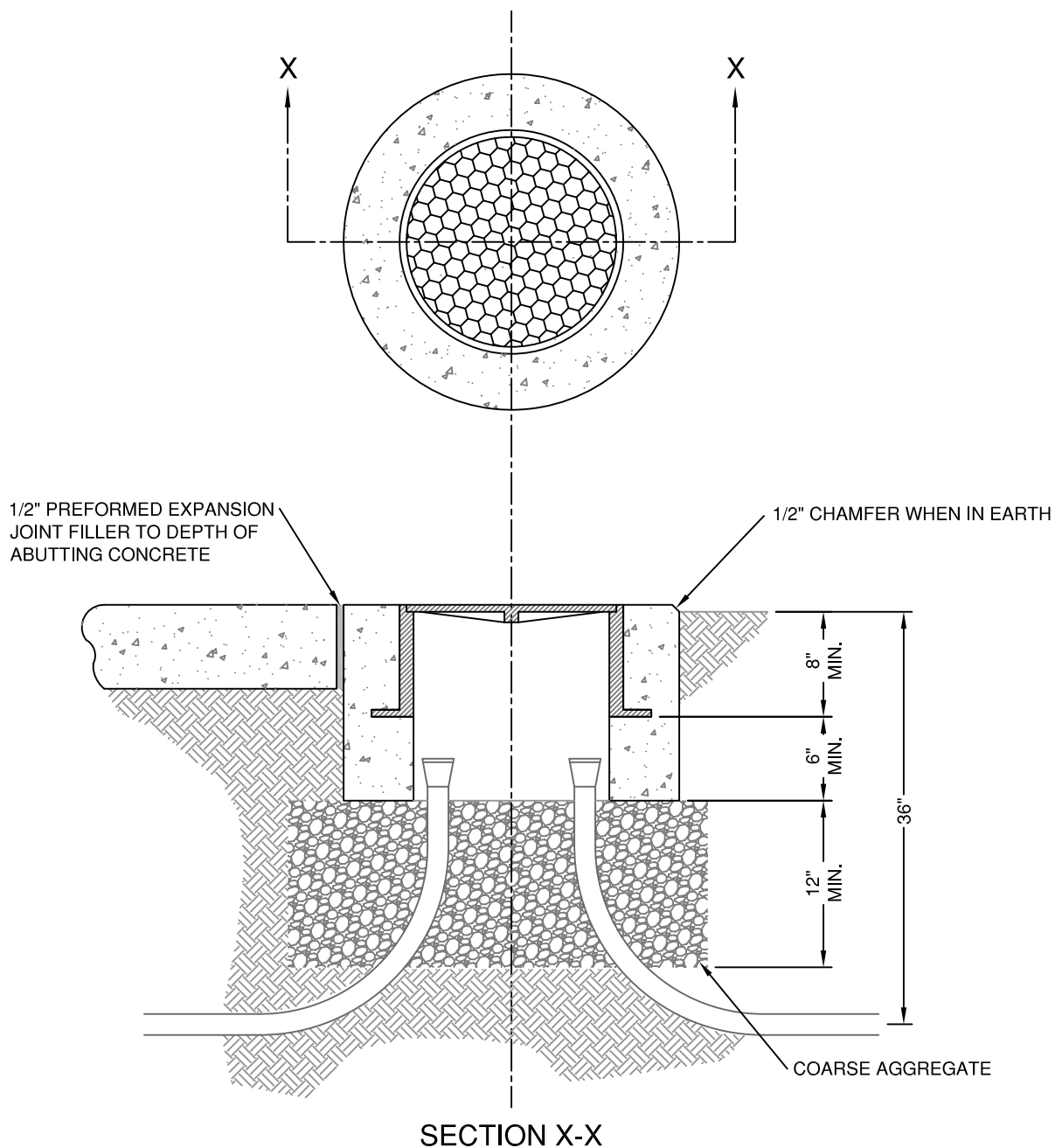
**24\"/>**

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	AMSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY.
Box & Cover Assembly	24" x 36" x 12"	10K	8	A6001974APCX12	106 lbs.	8
Box & Cover Assembly	24" x 36" x 12"	20K	15 / 22	A6001974HDAPCX12 / A6001974HDAPCX12	257 lbs.	8
Box & Cover Assembly	24" x 36" x 18"	10K	8	A6001974APCX18	231 lbs.	4
Box & Cover Assembly	24" x 36" x 18"	20K	15 / 22	A6001974HDAPCX18 / A6001974HDAPCX18	288 lbs.	4
Box & Cover Assembly	24" x 36" x 24"	10K	8	A6001974APCX24	277 lbs.	2
Box & Cover Assembly	24" x 36" x 24"	20K	15 / 22	A6001974HDAPCX24 / A6001974HDAPCX24	359 lbs.	2
Box & Cover Assembly	24" x 36" x 30"	10K	8	A6001974APCX30	302 lbs.	2
Box & Cover Assembly	24" x 36" x 30"	20K	15 / 22	A6001974HDAPCX30 / A6001974HDAPCX30	364 lbs.	2
Box & Cover Assembly	24" x 36" x 36"	10K	8	A6001974APCX36	325 lbs.	2
Box & Cover Assembly	24" x 36" x 36"	20K	15 / 22	A6001974HDAPCX36 / A6001974HDAPCX36	387 lbs.	2
Box & Cover Assembly	24" x 36" x 42"	10K	8	A6001974APCX42	369 lbs.	2
Box & Cover Assembly	24" x 36" x 42"	20K	15 / 22	A6001974HDAPCX42 / A6001974HDAPCX42	431 lbs.	2

**COMPONENTS**

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	AMSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY.
Replacement Covers	24" x 36" - 1 pc.	10K	8	A6001975	95 lbs.	20
Replacement Covers	24" x 36" - 1 pc.	20K	15 / 22	A6001975T / A6001975HD	57 lbs.	20
Replacement Covers	24" x 36" - 2 pc.	10K	8	A6001976	54 lbs.	20
Replacement Covers	24" x 36" - 2 pc.	20K	15 / 22	A6001976T / A6001976HD (2 pc. Req.)	54 lbs.	20
Replacement Boxes	24" x 36" x 18"	10K / 20K	22	A6001974PCX18	100 lbs.	8
Replacement Boxes	24" x 36" x 24"	10K / 20K	22	A6001974PCX24	136 lbs.	4
Replacement Boxes	24" x 36" x 30"	10K / 20K	22	A6001974PCX30	182 lbs.	2
Replacement Boxes	24" x 36" x 36"	10K / 20K	22	A6001974PCX36	207 lbs.	2
Replacement Boxes	24" x 36" x 42"	10K / 20K	22	A6001974PCX42	230 lbs.	2
Replacement Boxes	24" x 36" x 42"	10K / 20K	22	A6001974PCX42	274 lbs.	2





NOTES:

CONCRETE SHALL BE CLASS 47-B MODIFIED, AS PER CITY SPECIFICATIONS SECTION 2, DIVISION 2.

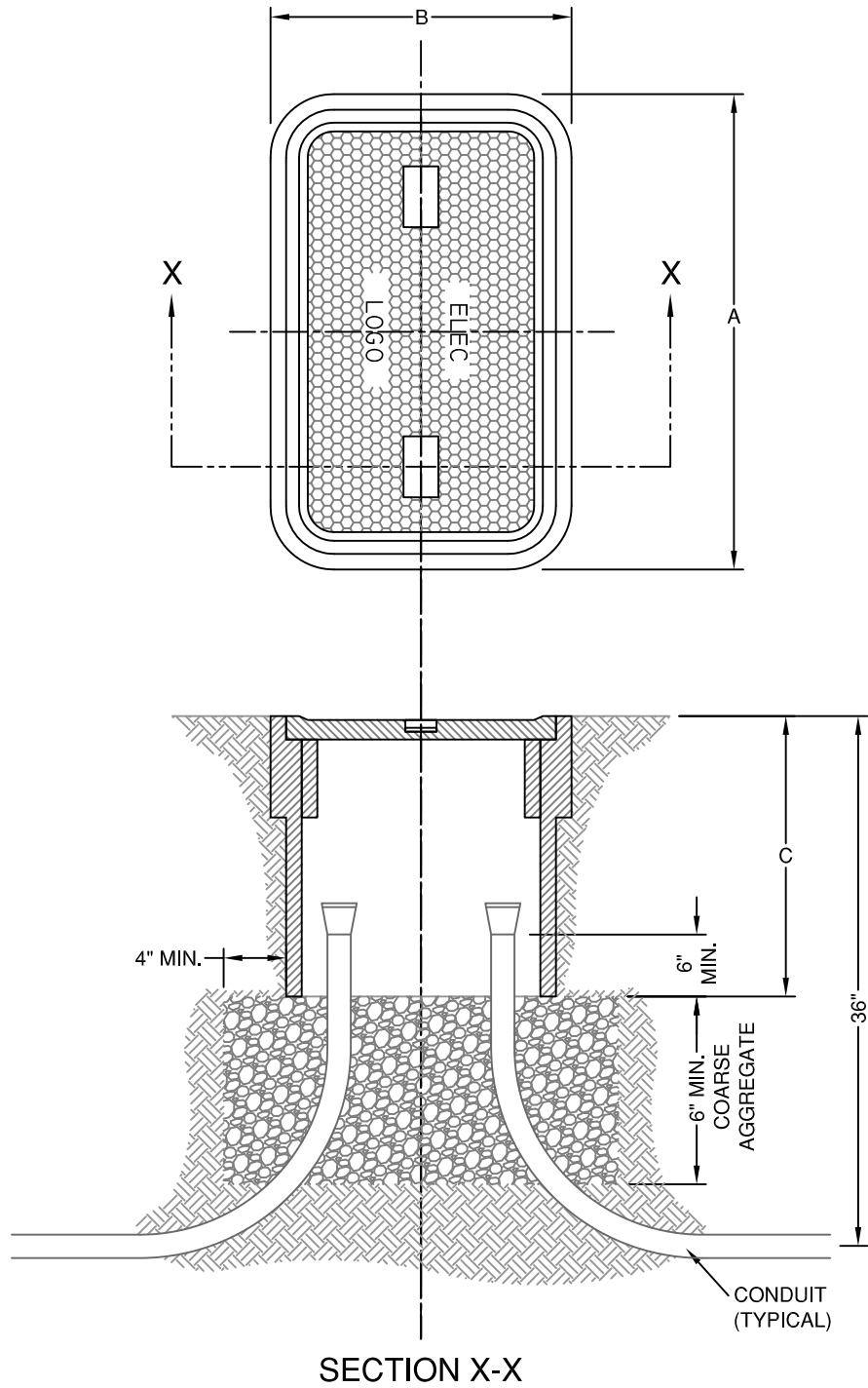
PULL BOXES SHALL HAVE A LIP OR FLANGED EDGE FRAMING THE COVER OPENING TO PROVIDE A FLUSH, FRAMED SEPARATION BETWEEN THE SURFACING MATERIAL AND THE EDGES OF THE COVER.

PULL BOX COVERS SHALL BE EMBOSSED WITH AN ANTI-SLIP SURFACE PATTERN, AND SHALL FIT SUFFICIENTLY TIGHT TO PREVENT ENTRANCE OF RUN-OFF WATER.

SEATING SURFACES OF FRAME AND COVER SHALL BE MACHINED TO FIT. FRAME AND COVER TO BE CAST IRON. TYPE 5 PULL BOX SHALL BE CAPABLE OF SUPPORTING VEHICULAR TRAFFIC IN ACCORDANCE WITH AASHTO SPECIFICATIONS H-20 LOADING.

REVISED: 6/5/2003





SEE TABLE ON STANDARD PLAN EU-12 FOR PULL BOX DIMENSIONS.

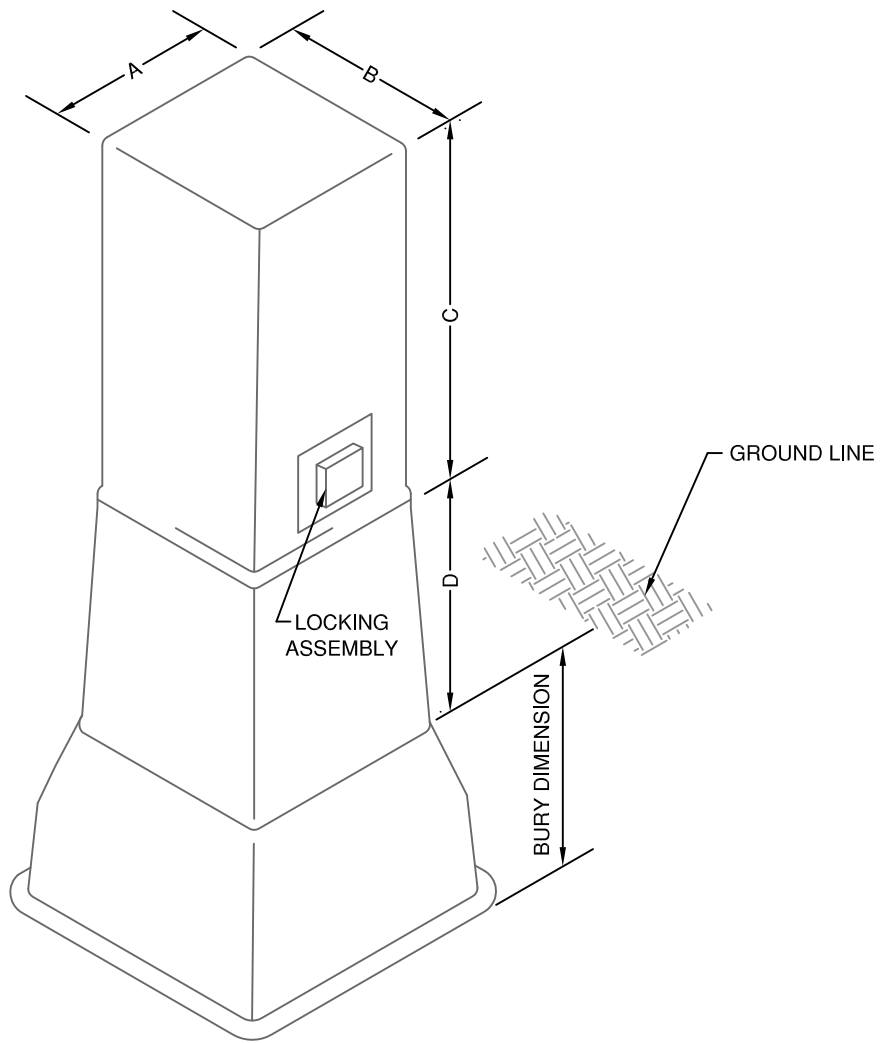
REVISED: 6/5/2003

CITY OF  
**GRAND ISLAND**  
 UTILITIES DEPARTMENT

DATE: 10/1/1998  
 DRAWN BY: T.D.Z.  
 CHECKED BY: T.W.B.

PULL BOX  
 CONDUIT  
 INSTALLATION

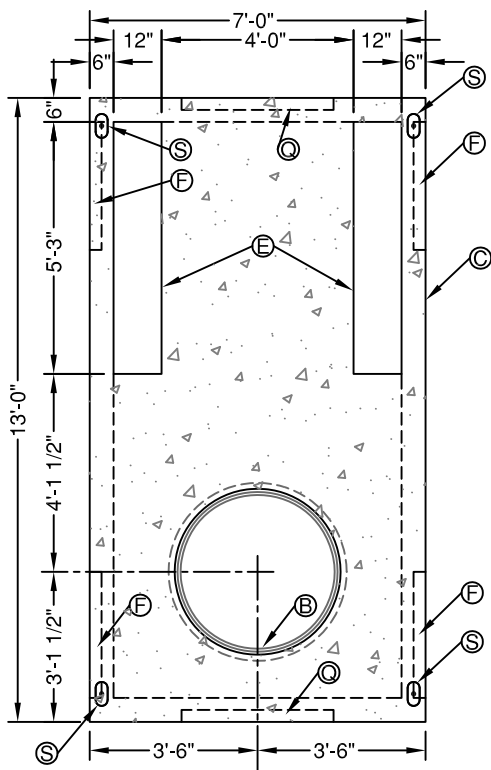
PLAN  
 EU - 14



DESCRIPTION	PART NO.	A	B	C	D	LOCKABLE	BURY DIMENSION
TYPE 1 SECONDARY PEDESTAL	PEN-CELL AG-15HD	14"	11"	18"	18"	X	12"
TYPE 2 SECONDARY PEDESTAL	PEN-CELL AG-14HP	11"	14"	18"	12"	X	6"
TYPE 3 SECONDARY PEDESTAL	WESTERN POWER SPM-190	12"	18.5"	24"	30"	X	12"

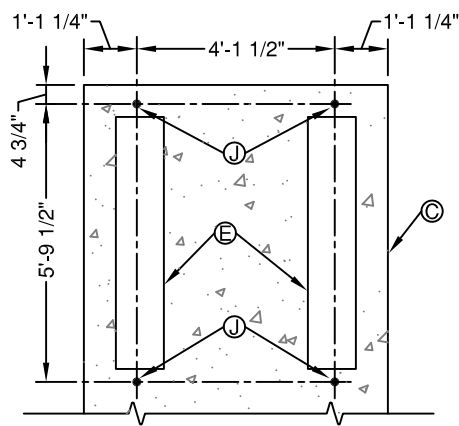
NOTE:  
 ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

REV: 3/6/2012

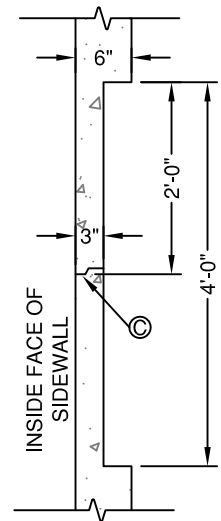


NOTE:  
REINFORCING FOR THE LID SECTION  
IS TO BE DETERMINED BY THE  
PRECAST CONCRETE CONTRACTOR.

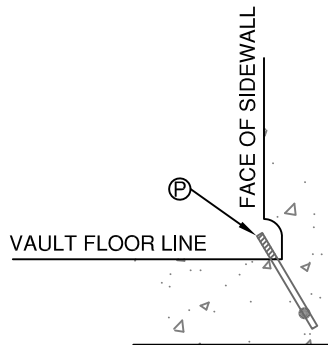
VAULT PLAN



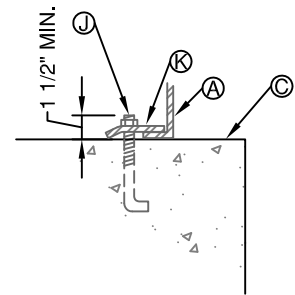
ANCHOR BOLT PLAN



KNOCK-OUT



LIFTING POINT DETAIL



ANCHOR BOLT DETAIL

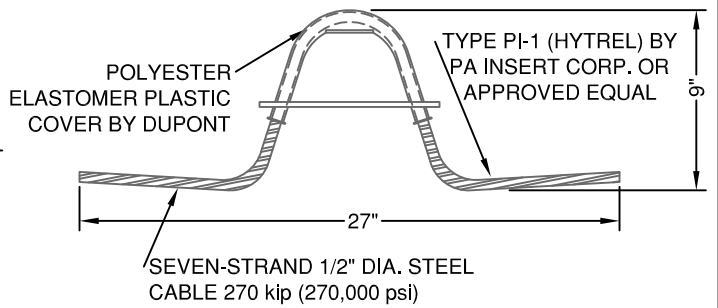
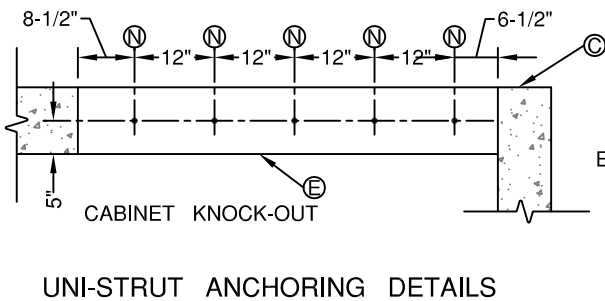
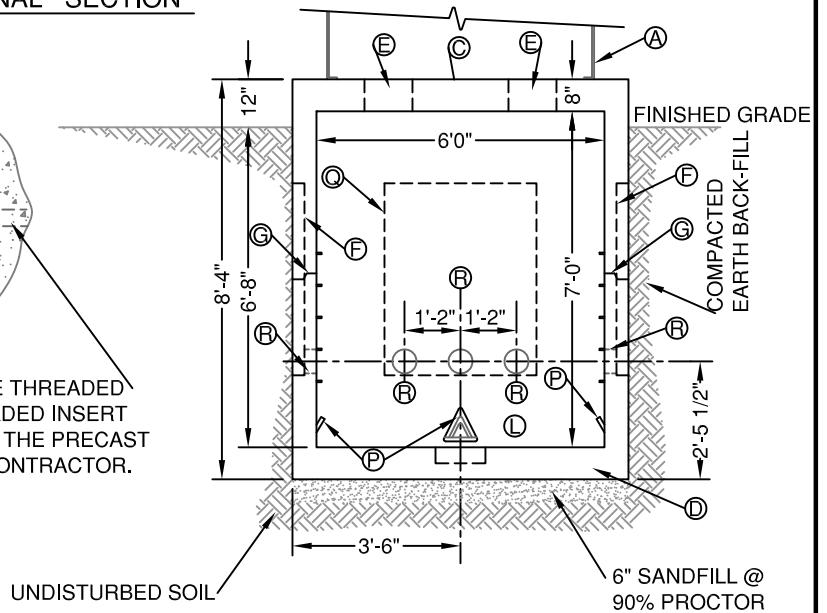
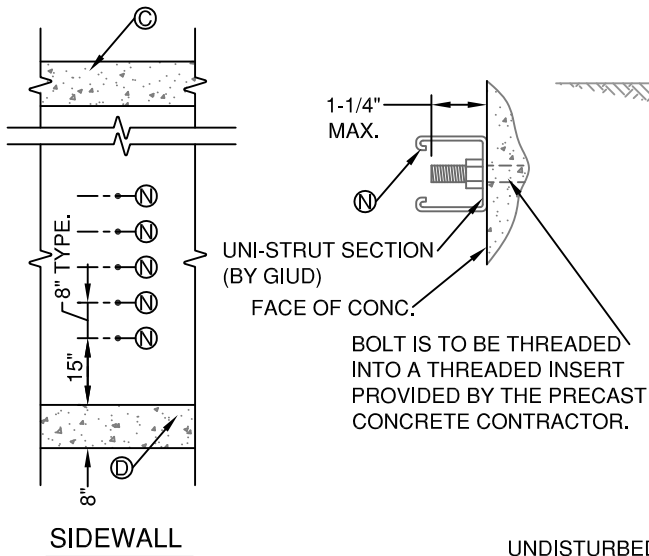
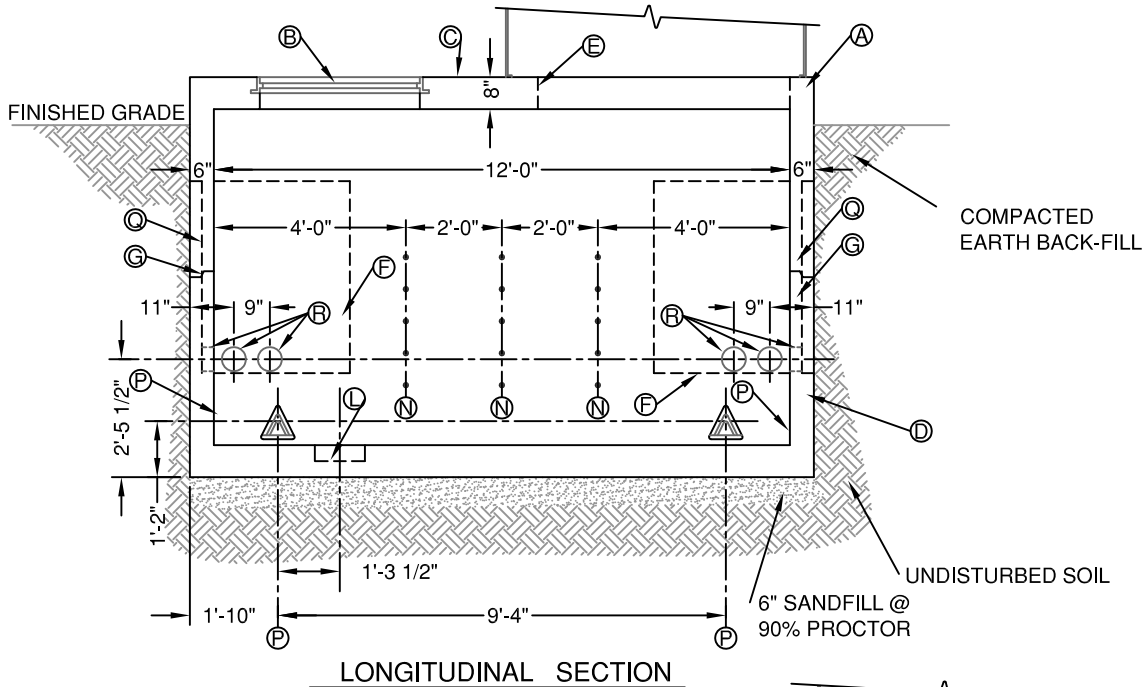
ITEM INDEX

- A. - S & C MODEL PME-9 PAD-MOUNTED GEAR (BY UTILITY)
- B. - NEENAH MODEL R-1792-JL HEAVY DUTY SOLID GRATE MANHOLE
- C. - PRECAST CONCRETE VAULT TOP SECTION
- D. - PRECAST CONCRETE VAULT BOTTOM SECTION
- E. - 12" x 63" PRECAST CONCRETE KNOCK-OUTS
- F. - 32" x 48" PRECAST CONCRETE KNOCK-OUTS
- G. - TYPICAL PRECAST CONCRETE TONGUE AND GROOVE JOINT
- H. - TYPICAL BOX SECTION CORNER CHAMFER
- J. - 5/8" x 6" ANCHOR BOLT
- K. - ANCHOR BRACKET (BY UTILITY)
- L. - MODEL #SU-125 12.5" PLASTIC SUMP W/LID
- M. - 1-1/2" x 1-1/2" x 12 GAUGE STEEL UNI-STRUT (BY UTILITY)
- N. - 3/8" DIA. STAR INSERTS
- P. - 1/2" CARBON STEEL PRESTRESS CABLE, TYPE PI-1 (HYTRELL ®) PULLING EYE W/ POCKET AND LID BY PA INSERT CORP. OR APPROVED EQUAL.
- Q. - 38" x 48" PRECAST CONCRETE KNOCK-OUTS
- R. - 6" Ø TERMINATORS
- S. - BERK LIFTING INSERT

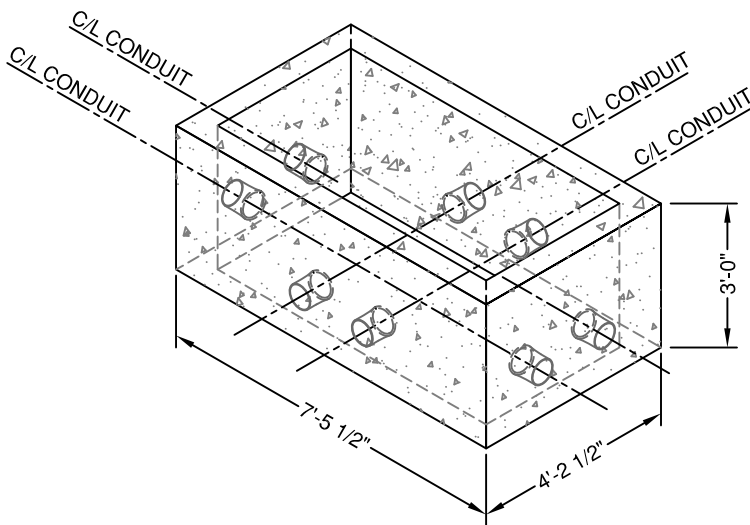
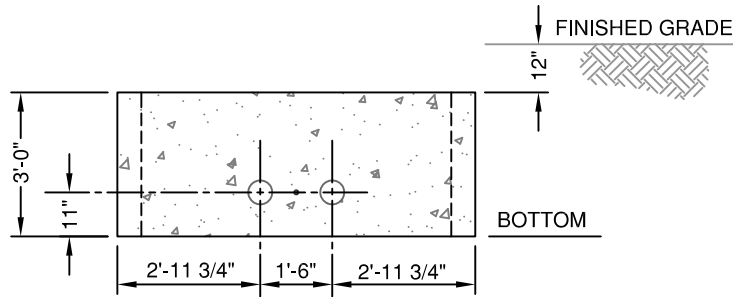
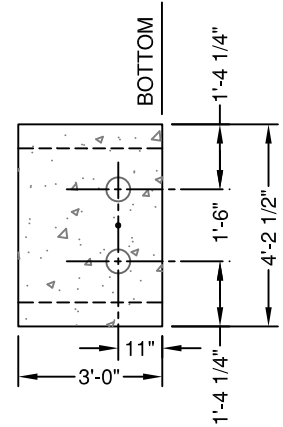
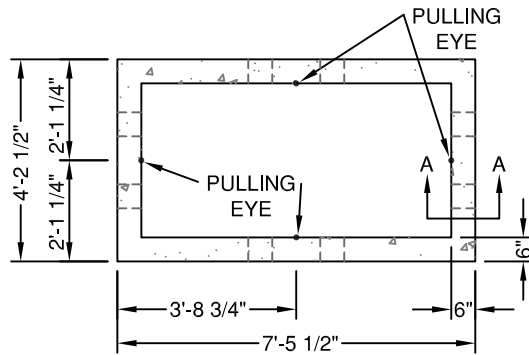
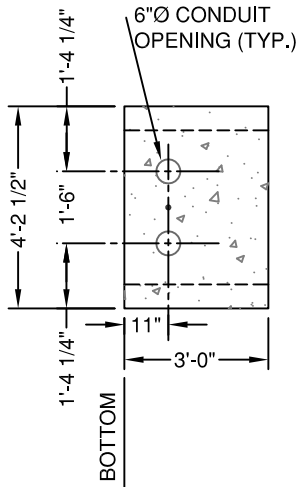
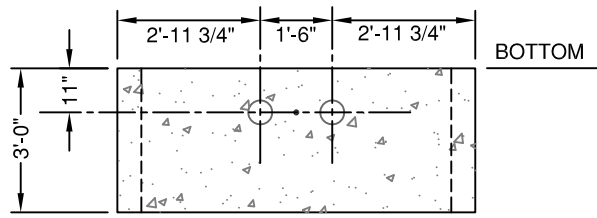
REV: 6/5/2003  
REV: 8/2/2001  
REV: 4/25/2001

GENERAL NOTES

1. - ALL CONCRETE TO BE USED IN CONSTRUCTION OF VAULT IS TO BE TYPE 47-B, AS PER CITY OF GRAND ISLAND SPECIFICATIONS DIVISION 2 "CONCRETE PAVING SPECIFICATIONS".
2. - ALL CONCRETE JOINTS ARE TO BE SEALED AND SET IN MASTIC.
3. - LIFTING HOOKS SHALL BE CAST IN EACH VAULT SECTION, AND POSITIONED SO THAT FUTURE USE IS POSSIBLE.
4. - VAULTS SHALL BE CONSTRUCTED TO HAVE A LOAD RATING OF H-20 OR HIGHER.
5. - ALL SECTIONS OF UNI-STRUT SHALL BE MOUNTED BY THE UTILITY DEPARTMENT. THE ANCHORS FOR THE MOUNTING UNI-STRUT SHALL BE CAST INTO THE VAULT SECTIONS, AS SPECIFIED, BY THE PRECAST CONCRETE CONTRACTOR.
6. - ALL ANCHOR POINTS ARE TO BE CONSTRUCTED TO WITHSTAND A PULLING FORCE OF 30,000 LBS.
7. - ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.



REV: 8/2/2001  
 REV: 4/25/2001  
 REV: 6/5/2003



ISOMETRIC VIEW

BILL OF MAT'L.		
ITEM	DESCRIPTION	No.
R 402	#4x2'-9"	20
R 401	#4x3'-9 1/2" 1'-6" 1'-6"	8
R 400	#4x12'-6"	8

WEIGHT = 5,075 lbs.

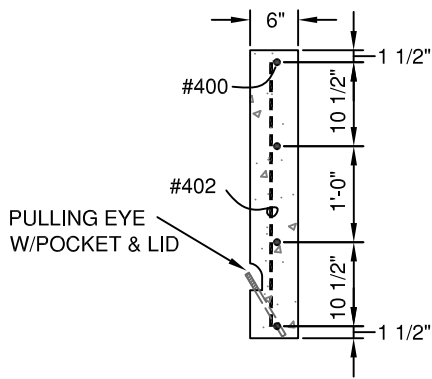
REV.: 6/6/2003  
REV.: 8/2/2001



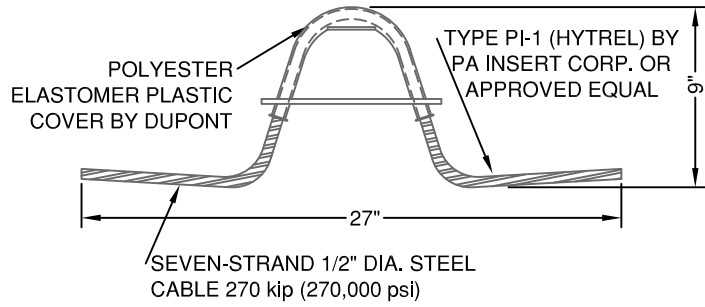
DATE: 4/12/1996  
DRAWN BY: ZEC  
CHECKED BY: T.W.B.

UTILITY ENCLOSURE  
7'x4'x3' PRECAST  
CONCRETE

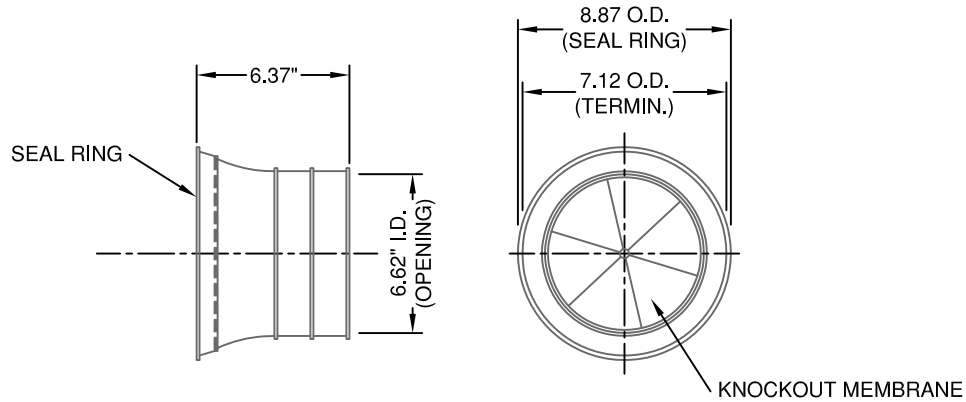
PLAN  
EU-17  
1 OF 2



SECTION A - A



PULLING EYE DETAIL



6" TERMINATOR DETAIL

**GENERAL NOTES**

1. DESIGN OF PRECAST UTILITY ENCLOSURE SHALL BE UNDER DIRECT SUPERVISION OF A PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE OF NEBRASKA. IF REQUESTED BY THE G.I.U.D., SUBMIT SEALED SHOP DRAWINGS AND CALCULATIONS. NOTE: FIBERMESH IS NOT A REPLACEMENT OF FLEXERAL REINFORCEMENT.
2. CONCRETE MIX DESIGN PER ACI 301-95. DESIGN OF REINFORCEMENT PER ACI 318-95. ALL CONCRETE TO BE 4000 PSI MIN. AT 28 DAYS WITH FIBERMESH (MIN. 1.5#/CY OF CONCRETE).
3. ALL REINFORCEMENT TO BE GRADE 60, ASTM A615/A615M-96A. WIRE FABRIC TO BE GRADE 75, ASTM A185/A185M-96. PRECASTER TO COORDINATE LOCATION OF CONCRETE WALL JOINT WITH OWNER.
4. LOADING CRITERIA: LOADING: PER ASTM C857 (STANDARD PRACTICE FOR MINIMUM STRUCTURAL LOADING FOR UNDERGROUND PRECAST CONCRETE STRUCTURES). USE 35 PCF (EQUIVALENT FLUID PRESSURE ABOVE WATER TABLE). USE 80 PCF (EQUIVALENT FLUID PRESSURE BELOW WATER TABLE). ASSUME SATURATED SOIL OR WATER TABLE AT 3'-0" BELOW FINISHED GRADE. MAXIMUM 4'-0" OVERBURDEN.
5. ALL CONDUIT OPENINGS SHALL HAVE AN ELECTRICAL/TELEPHONE TERMINATOR FOR 6" SCH 40 PVC MANUFACTURED BY PA INSERT CORP. OR APPROVED EQUAL, INSTALLED WITH FLARED SEAL RING TO INSIDE.

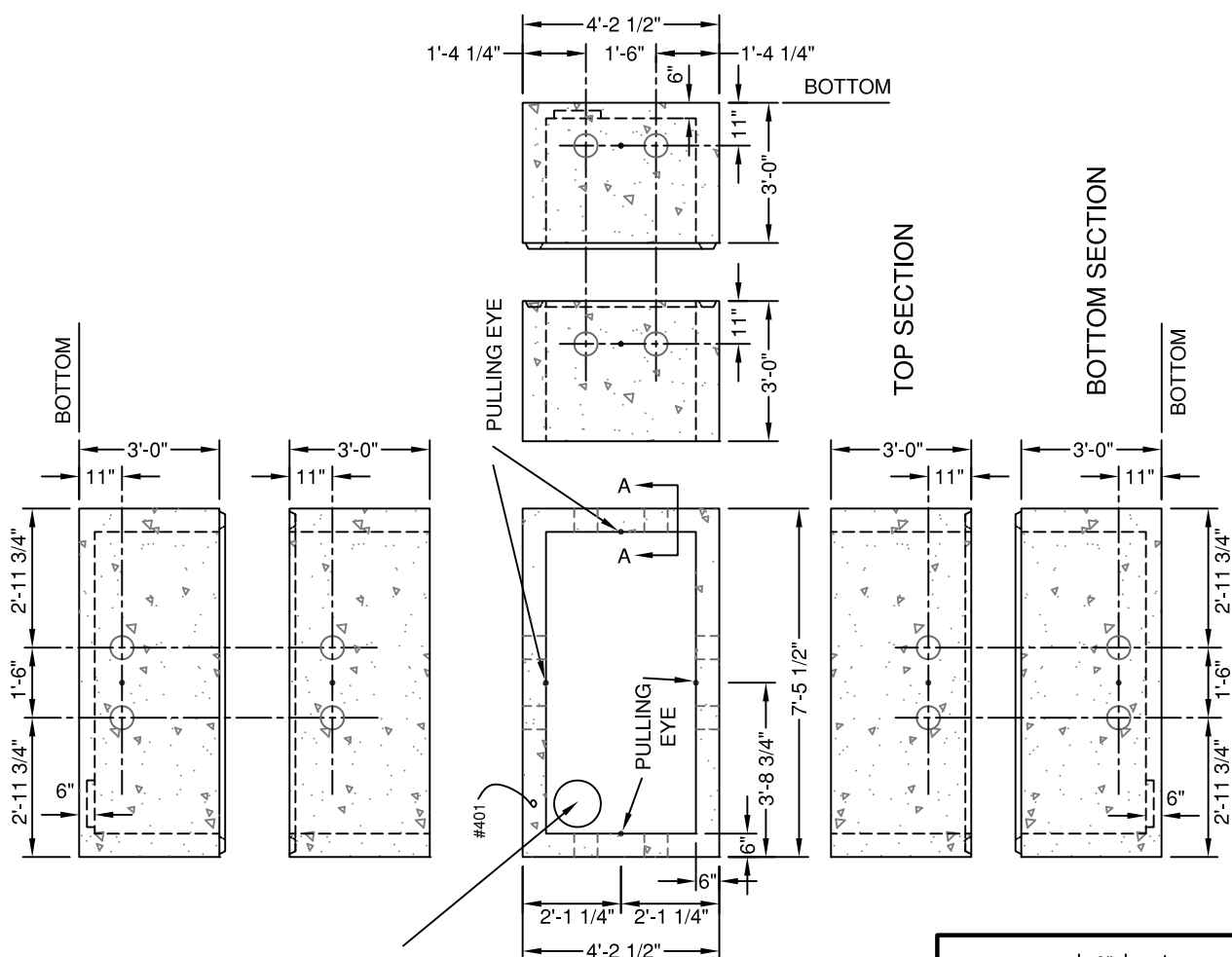
REV.: 6/6/2003  
REV.: 8/2/2001



DATE: 4/12/1996  
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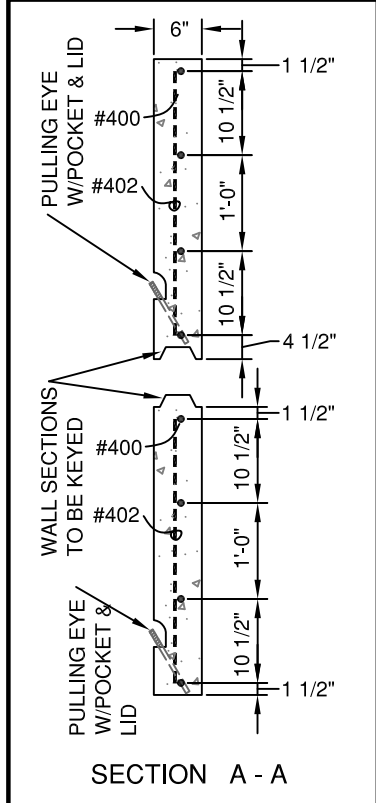
UTILITY ENCLOSURE  
7'x4'x3' PRECAST  
CONCRETE

PLAN  
EU-17  
2 OF 2



MODEL SU-125 12.5" PLASTIC  
SUMP PA INSERT CORP  
W/LID OR APP. EQUAL  
CONDUIT OPENING (TYP.)

BILL OF MAT'L.	
ITEM DESCRIPTION	No.
R 402	40
R 401 1'-6" 1'-6"	16
R 400	16



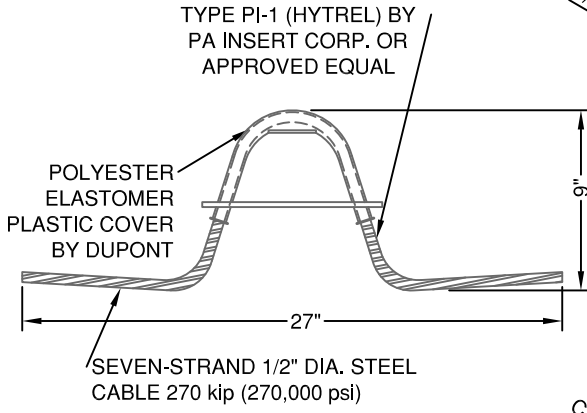
REV.: 8/3/01 by ZEX



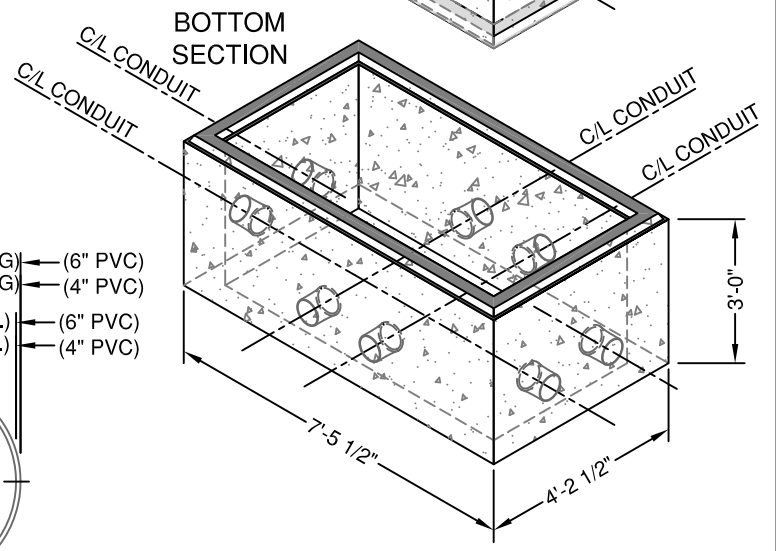
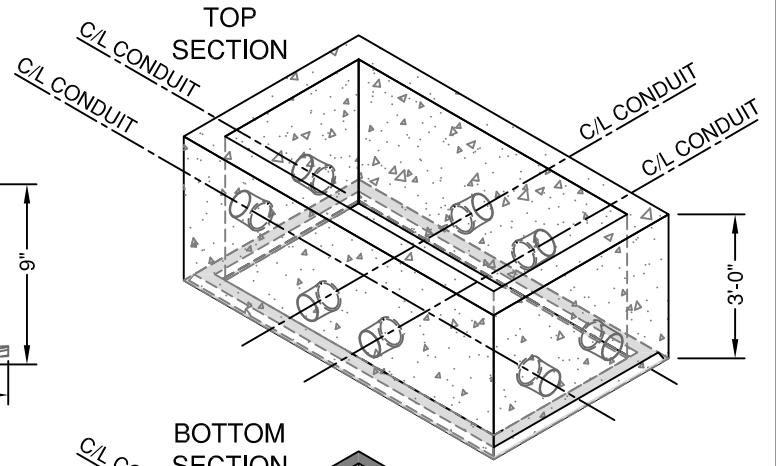
DATE: 4/12/2001  
DRAWN BY: ZEC  
CHECKED BY: T.W.B.

UTILITY ENCLOSURE  
7'x4'x6' PRECAST  
CONCRETE

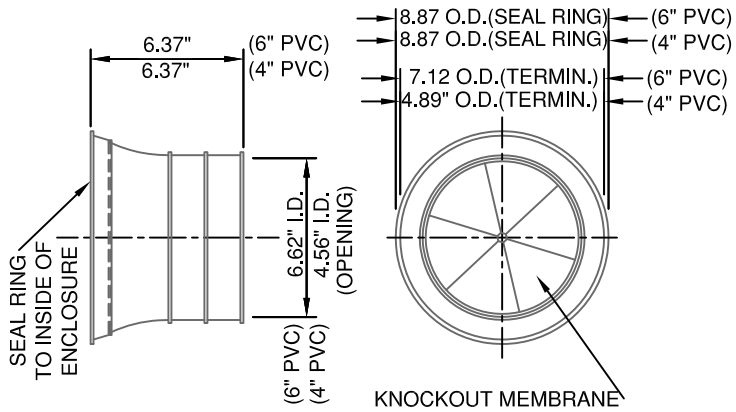
PLAN  
EU-18  
1 OF 2



PULLING EYE DETAIL



ISOMETRIC VIEW



TERMINATOR DETAIL  
(Sch 40 Only)

GENERAL NOTES

1. DESIGN OF PRECAST UTILITY ENCLOSURE SHALL BE UNDER DIRECT SUPERVISION OF A PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE OF NEBRASKA. IF REQUESTED BY THE G.I.U.D., SUBMIT SEALED SHOP DRAWINGS AND CALCULATIONS. NOTE: FIBERMESH IS NOT A REPLACEMENT OF FLEXERAL REINFORCEMENT.
2. CONCRETE MIX DESIGN PER ACI 301-95. DESIGN OF REINFORCEMENT PER ACI 318-95. ALL CONCRETE TO BE 4000 PSI MIN. AT 28 DAYS WITH FIBERMESH (MIN. 1.5#/C.Y. OF CONCRETE).
3. ALL REINFORCEMENT TO BE GRADE 60, ASTM A615/A615M-96A. WIRE FABRIC TO BE GRADE 75, ASTM A185/A185M-96. PRECASTER TO COORDINATE LOCATION OF CONCRETE WALL JOINT WITH OWNER.
4. LOADING CRITERIA: LOADING: PER ASTM C857 (STANDARD PRACTICE FOR MINIMUM STRUCTURAL LOADING FOR UNDERGROUND PRECAST CONCRETE STRUCTURES). USE 35 PCF (EQUIVALENT FLUID PRESSURE ABOVE WATER TABLE). USE 80 PCF (EQUIVALENT FLUID PRESSURE BELOW WATER TABLE). ASSUME SATURATED SOIL OR WATER TABLE AT 3'-0" BELOW FINISHED GRADE. MAXIMUM 4'-0" OVERBURDEN.
5. ALL CONDUIT OPENINGS SHALL HAVE AN ELECTRICAL/TELEPHONE TERMINATOR FOR SCH 40 MANUFACTURED BY PA INSERT CORP. OR APPROVED EQUAL, INSTALLED WITH FLARED SEAL RING TO INSIDE, SIZE SHALL BE FOR: \_\_\_\_ 4" OR \_\_\_\_ 6" PVC PIPE. (CHECK ONE)

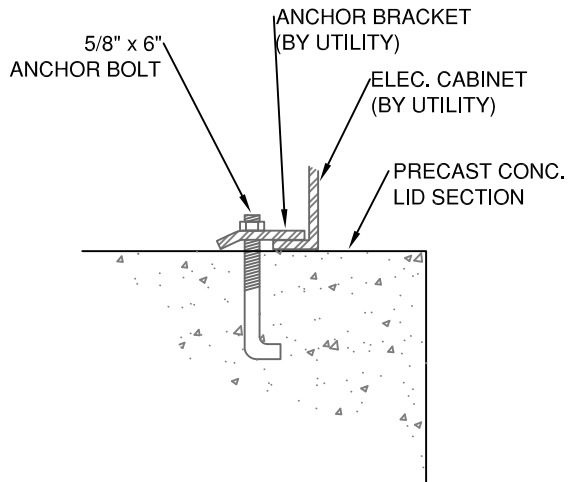


DATE: 4/12/2001  
 DRAWN BY: ZEC  
 CHECKED BY: T.W.B.

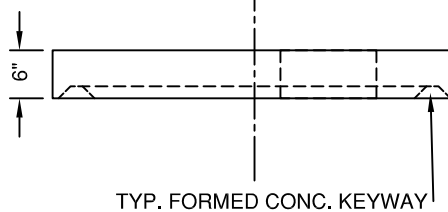
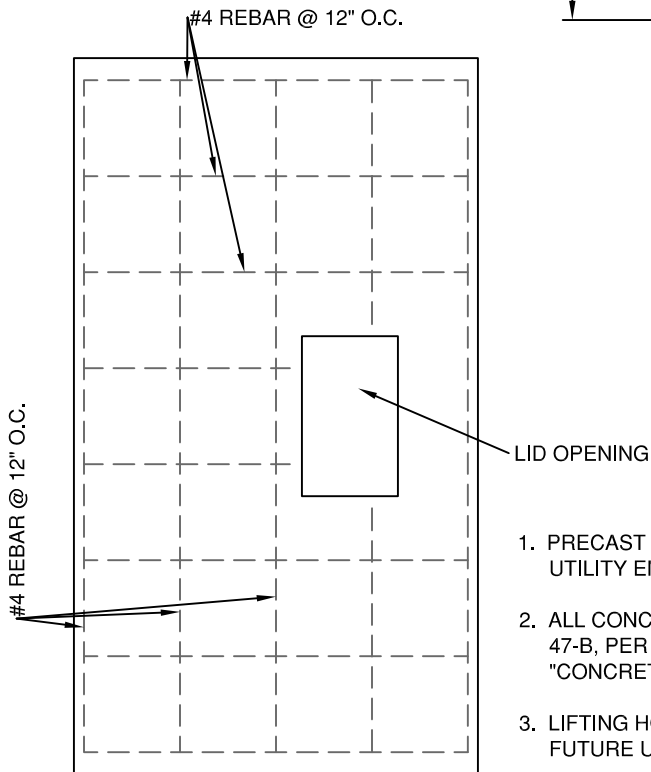
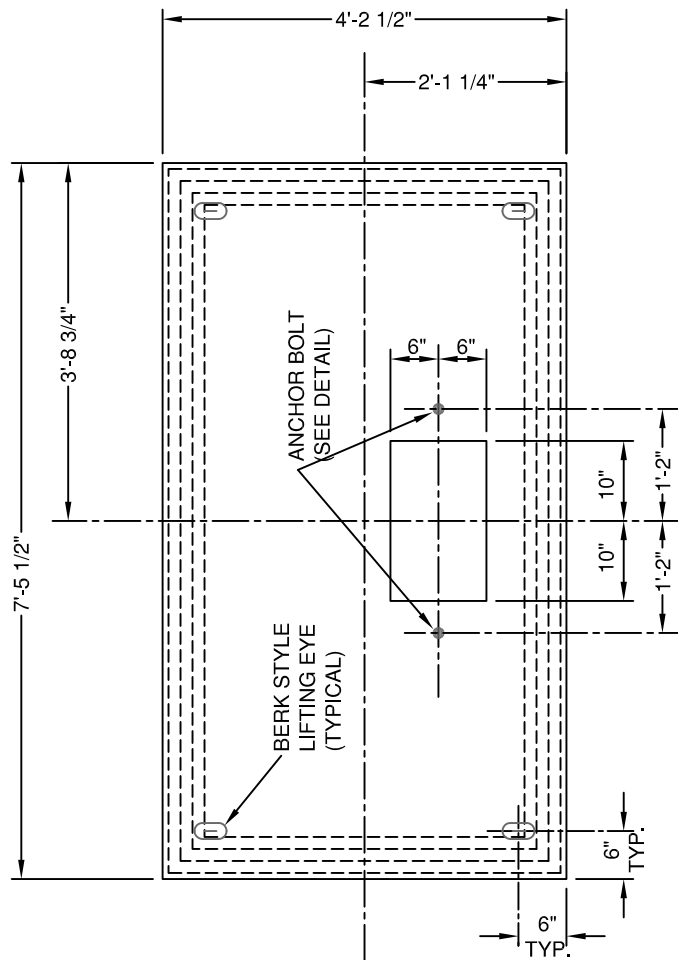
UTILITY ENCLOSURE  
 7'x4'x6' PRECAST  
 CONCRETE

PLAN  
 EU-18  
 2 OF 2





**ANCHOR BOLT DETAIL**

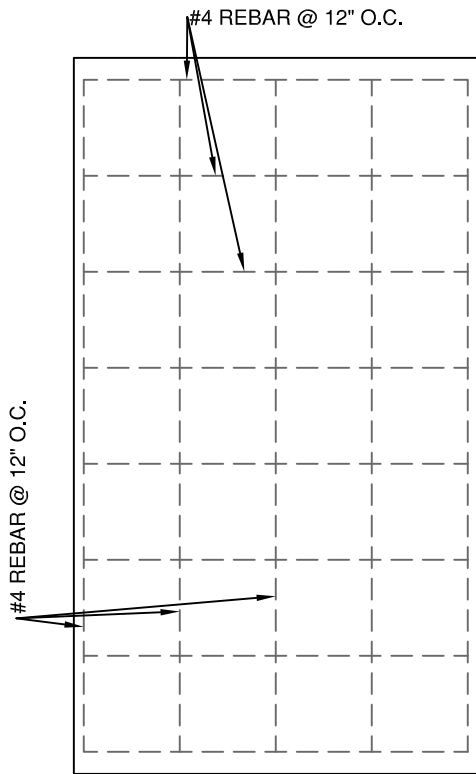


**GENERAL NOTES**

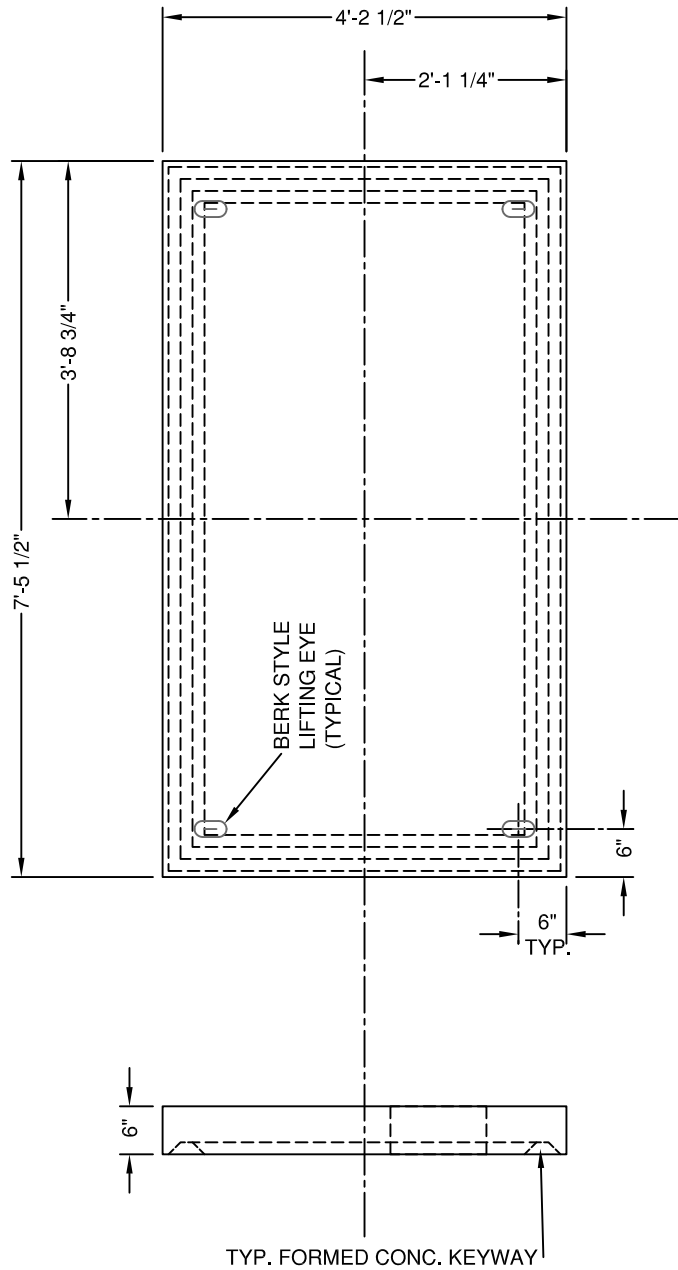
1. PRECAST CONCRETE LID IS TO BE CONSTRUCTED TO MATE WITH UTILITY ENCLOSURE TYPE EU-13 OR EU-14.
2. ALL CONCRETE TO BE USED IN CONSTRUCTION OF LID SHALL BE TYPE 47-B, PER CITY OF GRAND ISLAND SPECIFICATIONS DIVISION 2 "CONCRETE PAVING SPECIFICATIONS".
3. LIFTING HOOKS SHALL BE CAST AND POSITIONED IN THE LID SO THAT FUTURE USE IS POSSIBLE.
4. THE LID IS TO BE CONSTRUCTED TO HAVE A LOAD RATING OF H-20 OR HIGHER.

REV.: 6/6/2003  
REV.: 1/3/2002

**REBAR PLAN**



REBAR PLAN



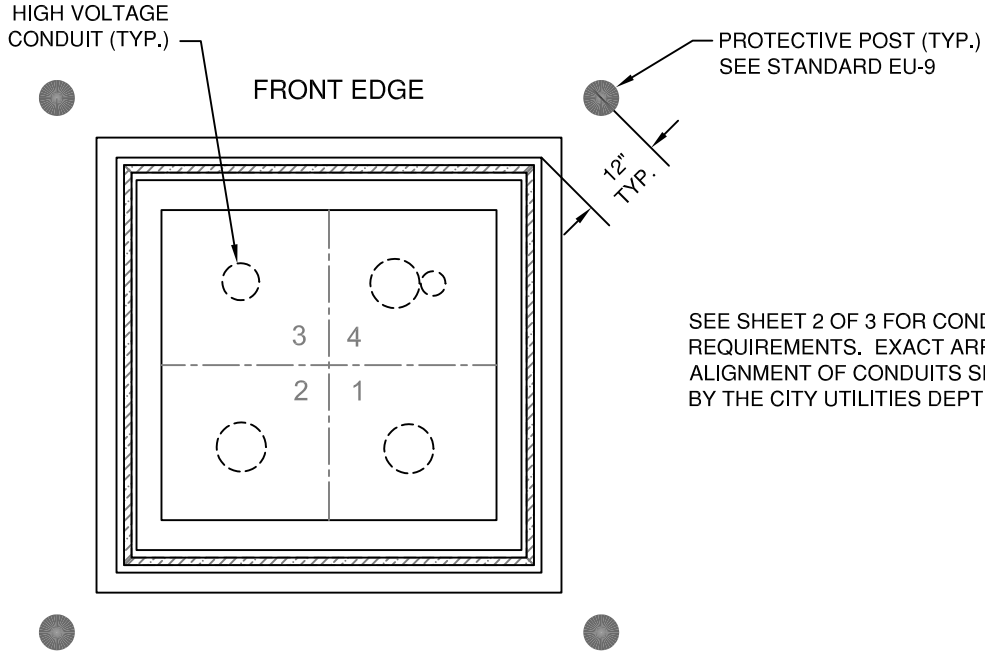
GENERAL NOTES

1. PRECAST CONCRETE LID IS TO BE CONSTRUCTED TO MATE WITH UTILITY ENCLOSURE TYPE EU-13 OR EU-14.
2. ALL CONCRETE TO BE USED IN CONSTRUCTION OF LID SHALL BE TYPE 47-B, PER CITY OF GRAND ISLAND SPECIFICATIONS DIVISION 2 "CONCRETE PAVING SPECIFICATIONS".
3. LIFTING HOOKS SHALL BE CAST AND POSITIONED IN THE LID SO THAT FUTURE USE IS POSSIBLE.
4. THE LID IS TO BE CONSTRUCTED TO HAVE A LOAD RATING OF H-20 OR HIGHER.

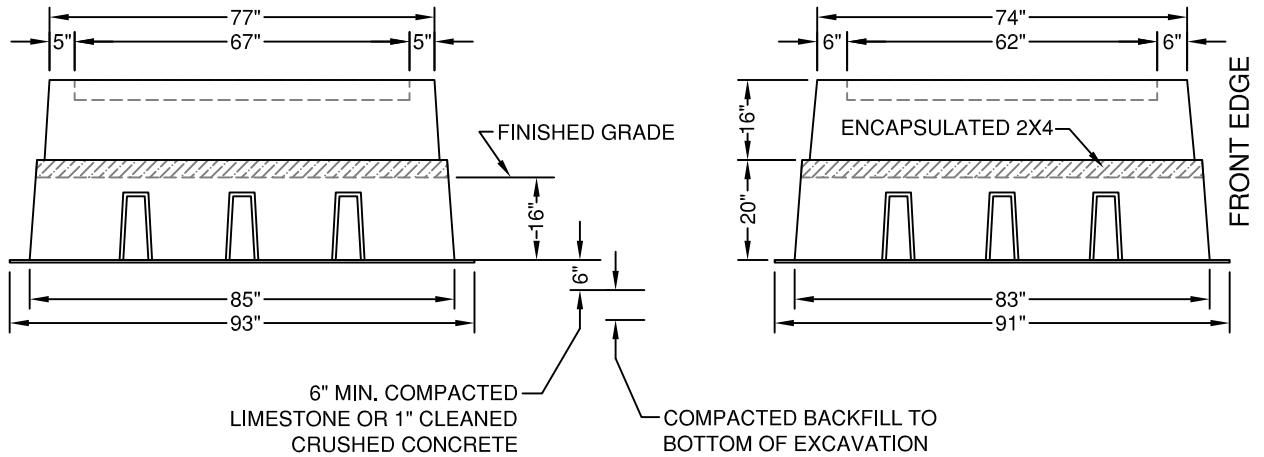
REV.: 6/6/2003

# FIBERGLASS BOX PAD FOR PAD-MOUNTED SWITCHGEAR

NORDIC® TYPE GS-75-73-36BMG67X62

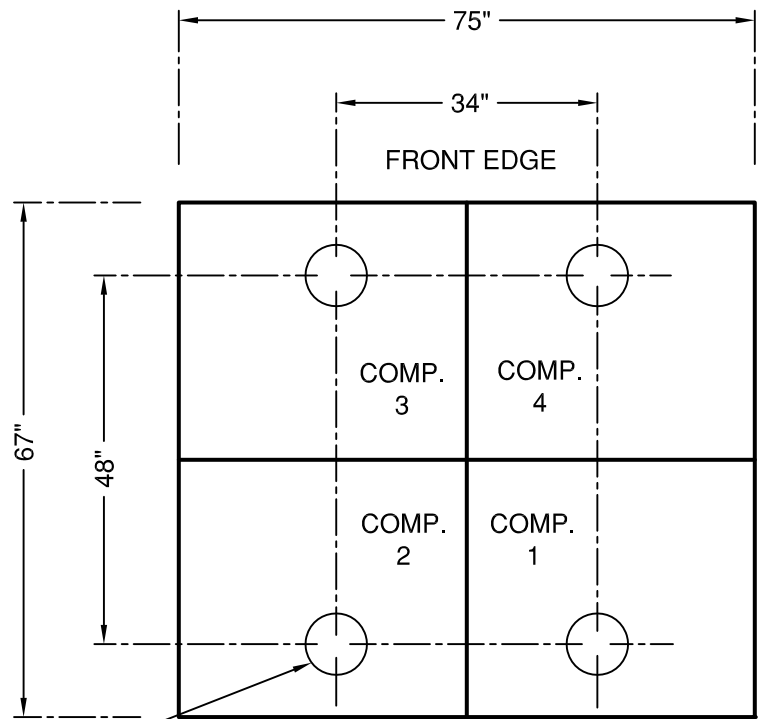


SEE SHEET 2 OF 3 FOR CONDUIT SPACING REQUIREMENTS. EXACT ARRANGEMENT AND ALIGNMENT OF CONDUITS SHALL BE SPECIFIED BY THE CITY UTILITIES DEPT. AT EACH LOCATION.



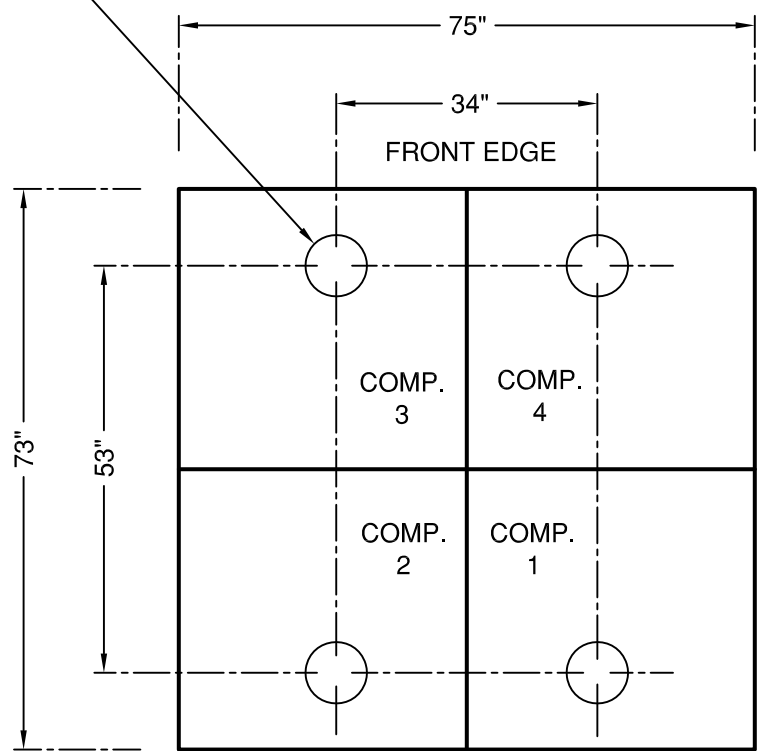
NOTE:  
ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

REVISED  
12/9/2011

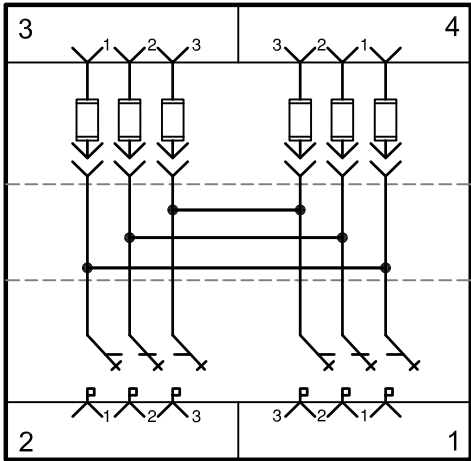


S & C PAD-MOUNTED GEAR, PME-9

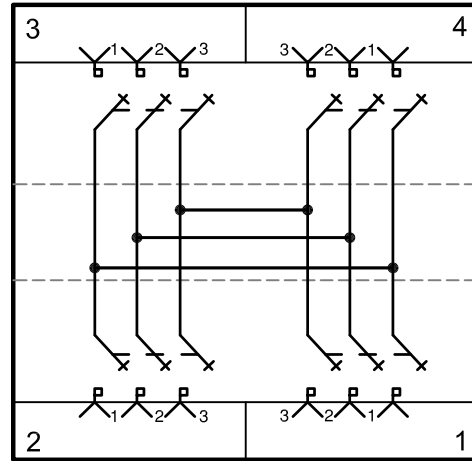
TYP. CONDUIT LOCATION.  
EXACT ARRANGEMENT AND  
ALIGNMENT OF CONDUITS  
SHALL BE SPECIFIED BY THE  
CITY UTILITIES DEPT. AT  
EACH LOCATION.



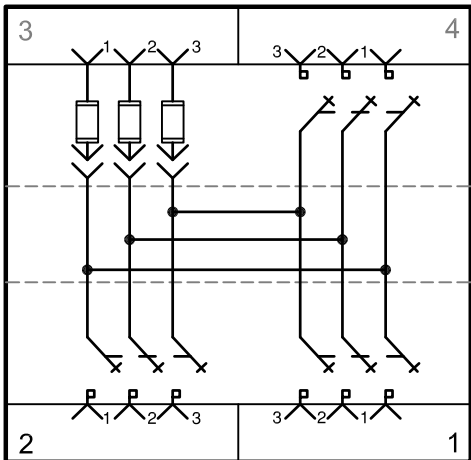
S & C PAD-MOUNTED GEAR, PME-10 & PME-11



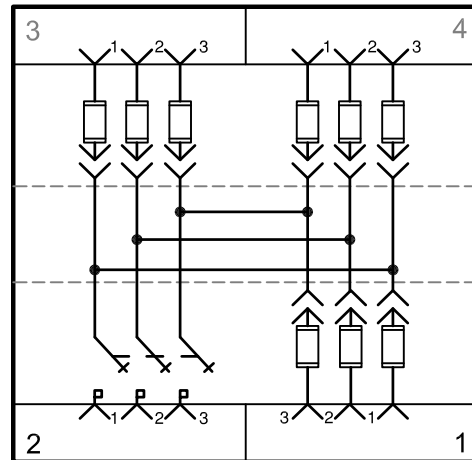
S & C PAD-MOUNTED GEAR- PME-9



S & C PAD-MOUNTED GEAR- PME-10

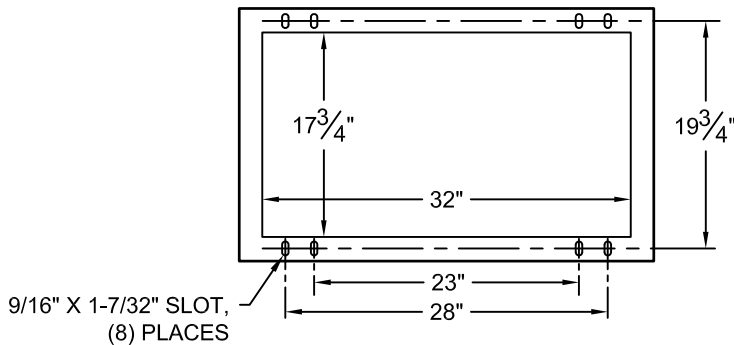
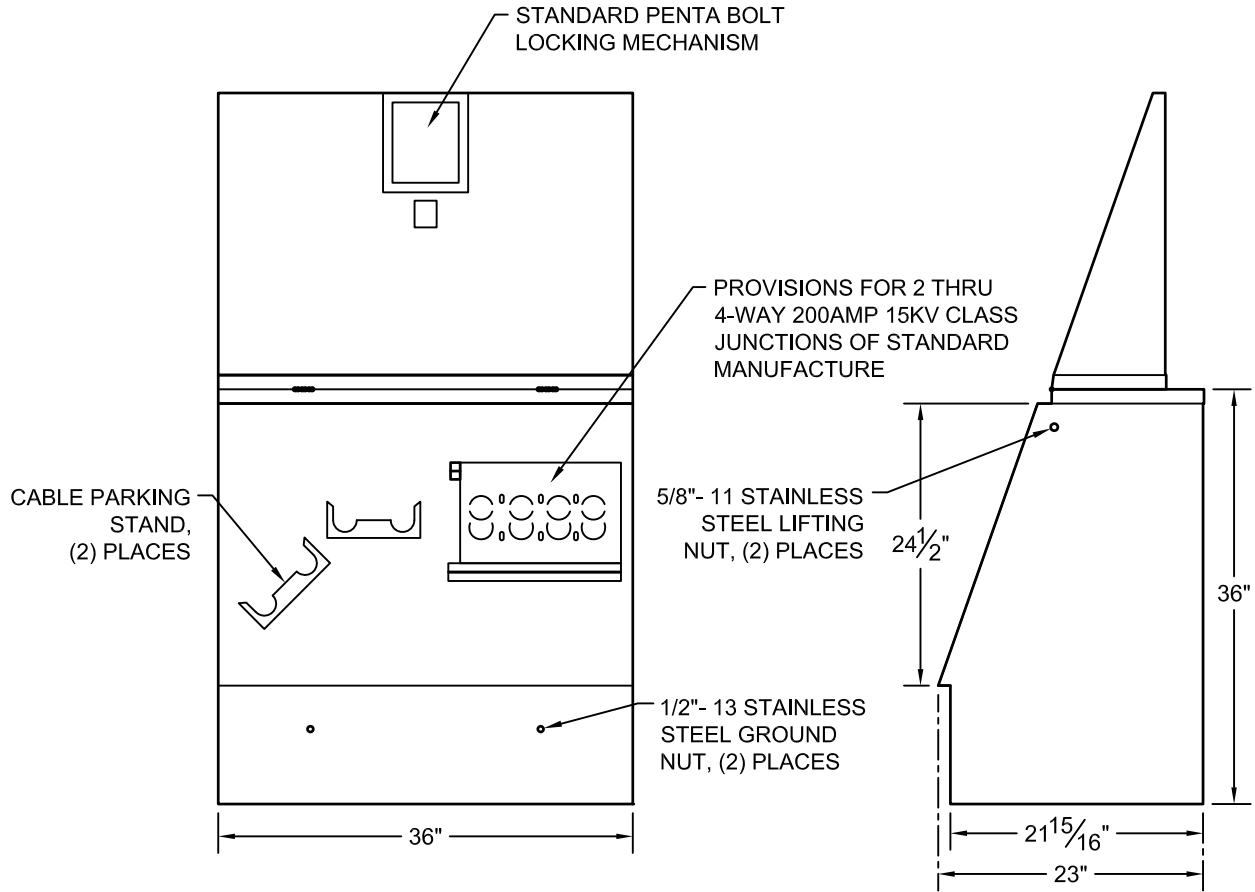


S & C PAD-MOUNTED GEAR- PME-11



S & C PAD-MOUNTED GEAR- PME-12

1Ø DEFERRAL CABINET  
 DURHAM Co. - TYPE B062588



NOTES:

1. FABRICATED FROM 14 GA. GALVANIZED STEEL.
2. PAINTED MUNSELL 7GY 3.29/1.5 GREEN.
3. DESIGNED TO CONFORM TO ANSI C57.12.28.
4. ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

### LEGEND

- ▲— FLASHING ARROW PANEL
- |— TYPE III BARRICADE
- REFLECTORIZED PLASTIC DRUM
- OR TYPE II BARRICADE (SEE NOTE 6)
- ↑ SIGN
- △ 28" CONES OR 28" TUBULAR POST

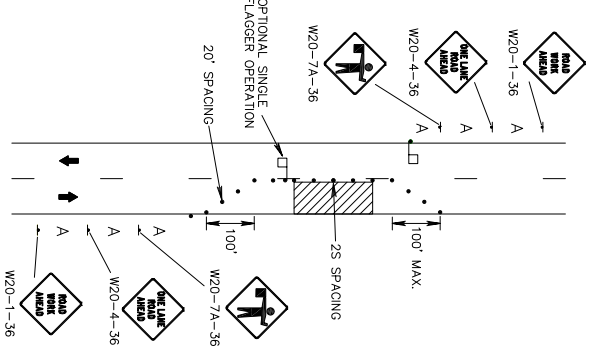
### TAPER FORMULA

- L = MERGING TAPER
- L/2 = SHIFTING TAPER
- L/3 = SHOULDER TAPER
- L = W x S FOR SPEEDS OF 45 MPH OR HIGHER
- L =  $\frac{WS^2}{60}$  FOR SPEEDS OF 40 MPH OR LOWER
- L = MINIMUM LENGTH OF TAPER
- S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK
- W = WIDTH OF OFFSET

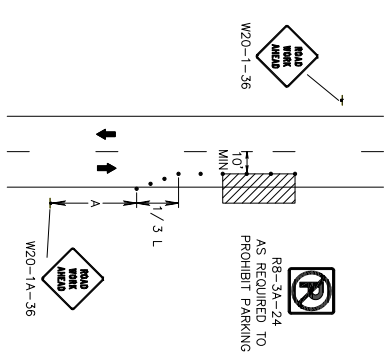
### GENERAL NOTES

1. ALL BARRICADE AND SIGN LOCATIONS ON THIS PLAN ARE APPROXIMATE, AND MAY BE ADJUSTED TO FIT FIELD CONDITIONS. THE SIGNS SHALL BE INSTALLED SO AS NOT TO OBSCURE THE VIEW OF OTHER TRAFFIC CONTROL DEVICES.
2. MINIMUM WIDTH OF TRAVELLED LANE SHALL BE AS REQUIRED BY THE ENGINEER.
3. FLASHING ARROW PANEL REQUIRED ON ALL ROADWAYS WITH POSTED SPEED LIMIT 45 MPH OR HIGHER.
4. LONG TERM FLASHING ARROW PANELS IN URBAN RESIDENTIAL AREAS WHERE DIESEL ENGINE NOISE WILL BE DISRUPTIVE TO RESIDENTS, MAY BE REQUIRED TO OPERATE BY 120 VAC OR, IF SIGHT DISTANCE ALLOWS A SOLAR POWERED ARROW PANEL MAY BE USED.
5. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. WHERE USED ALONG THE WORK AREA, THE SPACING MAY BE INCREASED TO TWO S SPACING.
6. SUBSTITUTION OF CONES, IF IN ACCORDANCE WITH SECTION 6F.64 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, IS PERMITTED.

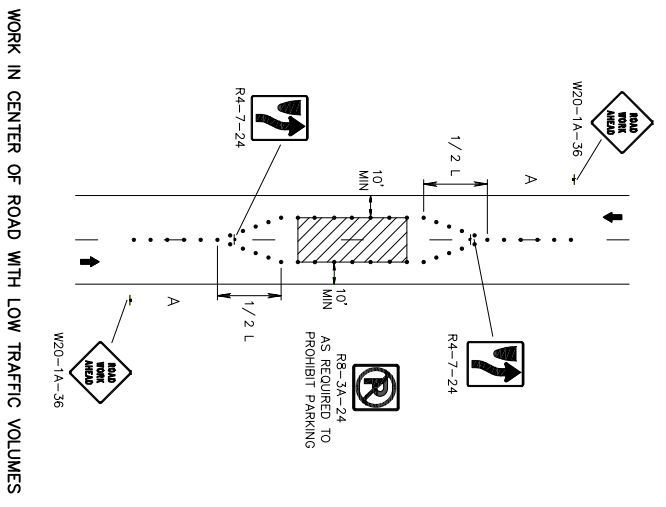
ROAD TYPE	MINIMUM DISTANCE BETWEEN SIGNS
URBAN (LOW SPEED - 25 MPH TO 40 MPH)	A
URBAN (HIGH SPEED - GREATER THAN 45 MPH)	150
	350



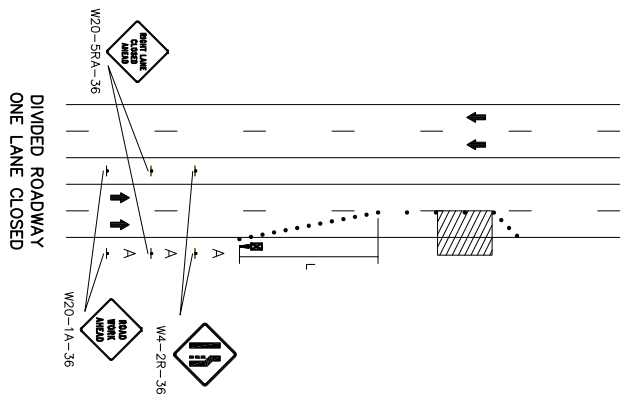
ONE LANE CLOSED WITH FLAGGER



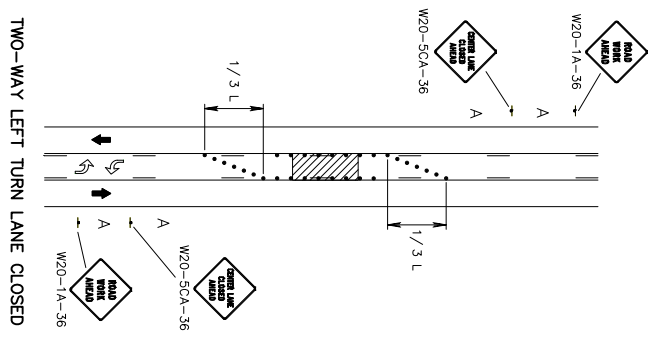
SHOULDER OR PARKING LANE CLOSED



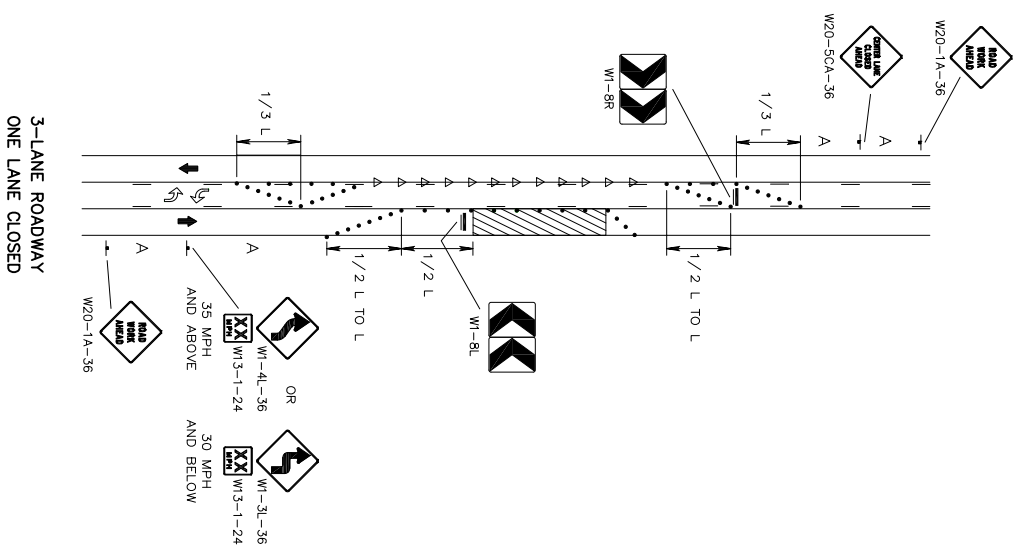
WORK IN CENTER OF ROAD WITH LOW TRAFFIC VOLUMES



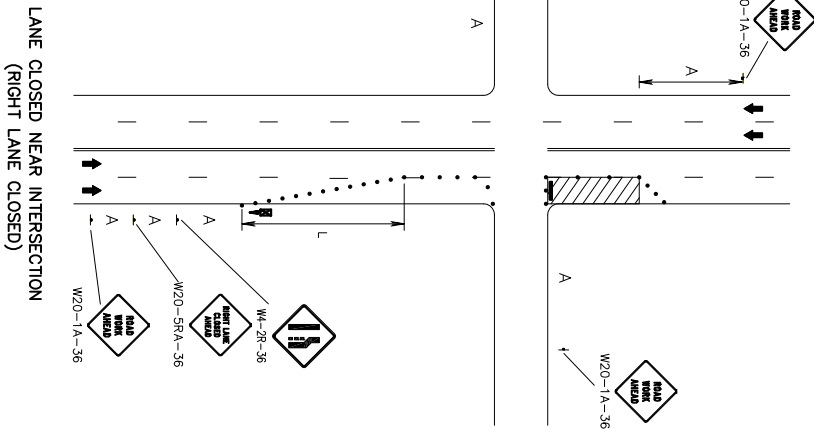
DIVIDED ROADWAY ONE LANE CLOSED



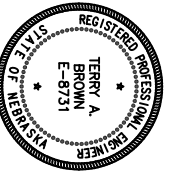
TWO-WAY LEFT TURN LANE CLOSED



3-LANE ROADWAY ONE LANE CLOSED



LANE CLOSED NEAR INTERSECTION (RIGHT LANE CLOSED)



**CITY OF GRAND ISLAND**  
ENGINEERING DIVISION  
TYPICAL TRAFFIC CONTROL PLAN

DESIGNED 12/10 SG  
REVIEWED

TYPICAL URBAN TRAFFIC CONTROL PLAN

