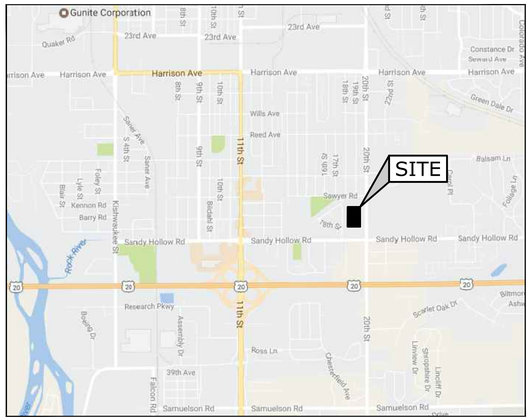
NASHOLD SCHOOL PARENT PARKING AND DROP OFF

ROCKFORD, ILLINOIS
3303 20TH STREET

GENERAL NOTES

1. The designs represented in these plans are in accordance with established practices of civil engineering for the design functions and uses intended by the owner at this time. Neither the engineer nor its personnel can or do warrant these designs or plans as constructed except in the specific cases where the engineer inspects and controls the physical construction on a contemporary basis at the site.
2. The contractor, by agreeing to perform the work, agrees to indemnify and hold harmless the owner, the engineer, the city, and all agents and assigns of those parties, from all suits and claims arising out of the performance of said work, and further agrees to defend or otherwise pay all legal fees arising out of the defense of said parties.
3. In accordance with generally accepted construction practices, the contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours. Any construction observation by the engineer of the contractor's performance is not intended to include review of the adequacy of the contractors safety measures, in, or near the construction site. The contractor is responsible for maintaining adequate signs, barricades, fencing, traffic control devices and measures, and all other measures that are necessary to protect the safety of the site at all times.
4. Maintain access for vehicular and pedestrian traffic as required for other construction activities. Use traffic control devices to include temporary striping, flagmen, barricades, warning signs, and warning lights shall be in accordance with current MUTCD and IDOT standards.
5. All phases of the site work for this project shall meet or exceed industry standards and requirements set forth by the City of Rockford, the State of Illinois, and this plan set.
6. The City of Rockford must be notified at least two (2) working days prior to the commencement or resumption of any work.
7. The contractor shall coordinate all permit and inspection requirements with responsible local, state, and federal agencies. The contractor shall include the costs of this coordination and all inspection fees in the bid price.
8. All work performed by the contractor shall come with a warranty against defects in workmanship and materials. This warranty period shall run concurrent with the required warranty periods the owner must provide to each local government agency, as a condition of the permit.
9. The contractor will be held solely responsible for and shall take precautions necessary to avoid property damage to adjacent properties during the construction of this project.
10. All structures, inlets, pipes, swales, roads and public egresses must be kept clean and free of dirt and debris at all times.
11. Any field tiles encountered during construction shall be recorded showing size, location, and depth by the contractor, and either reconnected and rerouted or connected to the storm sewer system. The owner shall be notified immediately upon encountering any tile.
12. The contractor shall field verify the elevations of the benchmarks prior to commencing work. The contractor shall also field verify the location and elevation of existing pipe inverts, curb or pavement where matching into existing work. The contractor shall field verify horizontal control by referencing property corners to known property lines. Notify the engineer of discrepancies in either vertical or horizontal control prior to proceeding.
13. All elevations are on WinGIS datum.
14. Parking areas designated as A.D.A. and all sidewalk shall be compliant with state and local A.D.A. requirements.
15. Tactile warning plates per IDOT specifications shall be placed at all locations where sidewalk that is to be replaced intersects public roads and at locations indicated in this plan set.
16. The contractor shall verify the location of all utilities in the field prior to construction. This includes sanitary sewer, water main, storm sewer, General Telephone, Commonwealth Edison, Northern Illinois Gas and cable television, if any. The J.U.L.I.E. number is 1-800-892-0123.
17. Property corners shall be carefully protected until they have been referenced by a Professional Land Surveyor.
18. The contractor shall keep careful measurements and records of all construction and shall furnish the Engineer, the Owner and the City with record drawings in a digital format compatible with AutoCAD Release 14 upon completion of his work.
19. Any excess dirt or materials shall be placed by the contractor onsite at the owner's direction or as indicated on the plans.
20. Notify the owner and City of Rockford of any existing wells. Obtain permit form the Illinois Bureau of Minerals and the State Water Survey. Cap and abandon wells in accordance with local, state, and federal regulations.
21. Finish grade shall in all areas not specifically reserved for storm water management shall drain freely. No ponding shall occur. Tolerances to be observed will be measured to the nearest 0.04 of a foot for paved surfaces and 0.10 of a foot for unpaved areas.

VICINITY MAP



Call Before You Dig

JULIE ILLINOIS ONE CALL SYSTEM

DIAL 811 OR
(800) 892-0123

INDEX OF SHEETS

UTILITY OFFICIALS

PUBLIC WORKS DEPARTMENT:
CITY OF ROCKFORD
PUBLIC WORKS
425 E. STATE STREET
ROCKFORD, IL 61104

WATER
CITY OF ROCKFORD
WATER DIVISION
425 E. STATE STREET
ROCKFORD, IL 61104
(779) 348-7368

SEWER DISTRICT:
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ROCK RIVER WATER RECLAMATION DISTRICT
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TELEPHONE:
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NAPERVILLE, IL 60563
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ELECTRIC:
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COMED
123 ENERGY DRIVE
ROCKFORD, IL 61109
(815) 263-3123

OWNER:

ROCKFORD PUBLIC SCHOOLS
DISTRICT 205

501 7TH STREET
ROCKFORD, IL 61104
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ENGINEER:

ARC DESIGN RESOURCES INC.
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FAX: (815) 484-4303
www.arcdesign.com
Design Firm License No. 184-001334

JEFFREY S. LINKENHELD
062-048405
LICENSED PROFESSIONAL ENGINEER OF ILLINOIS
5/17/17
EXP 11-30-17

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PROJECT NAME
OWNER'S NAME

NASHOLD SCHOOL PARENT PARKING AND DROP OFF

3303 20TH STREET,
ROCKFORD, IL 61109

ROCKFORD PUBLIC SCHOOLS 205

CONSULTANTS

ISSUED FOR

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REVISIONS

	ITEM	DATE
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SHEET TITLE
COVER

DRAWN	TRF
CHECKED	JSL
PM	JSL

PROJECT NUMBER
SHEET NUMBER
17044
C00

EARTHWORK NOTES

1. Unsuitable Materials:
   Assume that if unsuitable materials are encountered and the replacement of these materials is required, this situation shall be handled as follows:
   A. The site contractor shall notify the general contractor immediately. The project superintendent, prior to the undercutting being completed, must approve any additional undercutting. The quantities must be verified by the engineer as the additional removal is being completed.
   B. If approved by the general contractor, these materials shall be removed and replaced with compacted granular materials and compacted in accordance to required standards. The cost of this work shall be an extra to the contract, with the cost being adjusted by change order.
   C. If the site contractor is furnishing any off site materials, a representative sample of such materials shall be furnished to the general contractor's approved testing agency to determine a proctor.
   D. These materials shall be placed as homogeneously as possible to facilitate accurate compaction and moisture testing.
2. Definition for materials
   A. "Organic material" is defined as material having an organic content in excess of 8% or as determined by the project owner's engineer.
   B. Topsoil shall be friable and loamy (loam, sandy loam, silt loam, sandy clay loam, or clay loam). Sand content shall generally be less than 70% by weight, and clay content shall generally be less than 35% by weight. Organic soils, such as peat or muck, shall not be used as topsoil.
   C. Topsoil shall be relatively free from large roots, weeds, brush, or stones larger than 25 mm (1 inch). At least 90% shall pass the 2.00 mm (no. 10) sieve.
   D. Topsoil ph shall be between 5.0 and 8.0. topsoil organic content shall not be less than 1.5% by weight. Topsoil shall contain no substance that is potentially toxic to plant growth.
   E. "Existing on-site material" is defined as material of such a quality that the specified compaction can be met without any additional work other than "densifying" with a roller. Scarification and drying of this material will not need to be done prior to compaction.
   F. "Existing on-site material" is defined as material with a high moisture content that can not meet specified compaction requirements without scarification and drying, chemical stabilization, etc. of this material prior to compaction.
   G. "Unsuitable material" is defined as any materials that:
      G.1. Cannot be utilized as "topsoil", (organic) for landscape areas.
      G.2. Cannot be utilized as "engineered fill", regardless of moisture content and/or does not structurally meet the standards of the project owner's engineer's recommendations for "engineered fill".
      G.3. These materials can be defined as natural materials or materials from "demolition" and/or excavated areas; i.e., they are materials that would not be suitable for "engineered fill".
   H. "Off-site material" is defined as any materials that are brought from any area not indicated on this plan set.
   I. "Trench backfill" shall be defined as any materials used for the purposes of backfilling any trench and/or any excavation requiring backfilling. Refer to the section titled "standards for fill areas" for determine acceptable materials and procedures.
   J. the term "stripping" or "strip" as used herein shall be defined as the removal of all "organic materials" from a given area. the term "organic materials" is defined as material having an organic content over 8% based on ASTM test method D-2974 or as defined by the owner's engineer.
3. Standards for cut areas:
   A. A "cut area" is defined as any area where "engineered fill" is not required to bring the site to design subgrade elevation, instead excavation or "cutting" is required to achieve design subgrade elevation. ("Engineered fill" being defined as any material being "offsite material".)
   B. In "cut areas" the site contractor shall perform one of the following procedures at the discretion and in the presence of a representative of the owner's engineer and the project architect:
      B.1. Item 1: for exposed building or parking lot subgrades consisting primarily of granular soils the exposed subgrade should be compacted/densified by at least one (1) pass of a smooth-drummed vibratory roller having a minimum gross weight of 10 tons.
      B.2. Item 2: for exposed building or parking lot subgrades consisting primarily of cohesive soils, the exposed subgrades should be proof-rolled with a fully-loaded six-wheel truck having a minimum gross weight of 25 tons. the maximum allowable deflection under the specified equipment shall be 1/2".
   C. In the event that adequate stability of granular soils subgrades cannot be achieved by the procedures as outlined in item 1, above, or that deflections of greater than 1/2" are observed during the "proof rolling" of cohesive soils subgrades, as outlined in item 2, above, additional corrective measures will be required. These measures could include, but not necessarily be limited to, scarification, moisture conditioning, and re-compaction; undercutting & replacement with engineered fill and chemical stabilization, etc.. with crushed stone (with or without geotextiles); chemical stabilization, etc.
   D. It shall be considered as part of the scope of these documents and thus part of this contractor's responsibility to perform scarification and allow for drying of the subgrade per illinois dot standards (scarify a 16" depth for 3 days). If this does not work then additional drying measures shall be an extra to the contract.
   E. Any proposed corrective measures by the contractor should be reviewed by the owner's engineer and the project architect. in the event that in the opinion of the owner's engineer and/or the project architect proof rolling is not a good indicator of the subgrade stability an alternative method shall be specified by the owner's engineer and/or the project architect.
4. Standards for fill areas:
   A. A "fill" area is defined as any area where material is required to adjust the existing elevation to a proposed subgrade elevation. These areas will require the installation of "engineered fill" to achieve design subgrade elevation. "Engineered fill" material can be defined as either "granular" and/or "soil" having their origin for either the construction site and/or "offsite material". Materials having their origin from the construction site is referred to as "borrow". The composition and the compaction standards of the engineered fill for this project will be specified by owner's engineer and the project architect.
   B. In "fill" areas will borrow materials are allowed to be utilized as engineered fill the site contractor shall compact the borrow to the specified compaction.
5. Compaction standards (for engineered fill and back filled areas)
   A. prior to placement of fill in areas below design grade, the exposed subgrade should be observed by a representative of the owner's engineer to evaluate that adequate stripping has been performed. Additionally, the proof rolling or compacting procedures outlined in the "standards for cut areas" section of this cpi should be performed. It is typical practice to proof roll, and densify if necessary, exposed subgrades prior to filling. If soft or unstable subgrades are observed, these areas should be stabilized or undercut. minimum compaction standards are based upon a percentage of the fill or backfill material's maximum standard proctor dry density (ASTM specification D-698). All engineered subgrades should meet the following minimum compaction:
      A.1. Areas under foundations bases:
         A.1.A. 95% standard proctor for all fill placed below foundation base elevation in the building area.
         A.1.B. areas under floor slabs and above foundations/footing bases:
         A.1.C. 95% standard proctor for all fill placed more than 12 inches below final grade for support of floor slabs and above foundation base elevation in the building area.
         A.1.D. 95% standard proctor for fill placed in the upper 12 inches of design subgrade below slabs. The granular fill under the floor slab should be compacted to at least 95% standard proctor.
      A.2. Areas under pavement sections:
         A.2.A. 95% standard proctor for all fill placed more than 12 inches below passenger car pavement sections and 95% standard proctor for the top 12 inches.
      A.3. Landscaped areas:
         A.3.A. 90% standard proctor for all fill placed in landscape areas. These areas should be brought to grade with "topsoil" to a depth of 12 inches in areas to be seeded, 6 inches in areas to be sodded, and 24 inches for all interior curbed landscape islands.
      A.4. Base course portion of pavement sections:
         A.4.A. 95% standard proctor for all base course materials that are part of a "pavement section".
   B. The option of utilizing the modified proctor (ASTM D-1557) in lieu of the specified standard proctor (ASTM D-698) shall be at the discretion of the general contractor, contingent upon written approval by the architect and owner's engineer and approved by the project architect.
   C. Place all backfill and fill materials in layers that are not more than 8" in loose depth. before compacting, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum density of the area.
6. Finish grading:
   A. The term "finish grading" as used herein shall be defined as that condition that areas not receiving a finish product such as parking areas, driveways, roadways, sidewalks, etc. finish graded areas would generally be those areas receiving "landscaping" such as seed, sod, trees, bushes, mulch, etc.
   B. The site contractor is responsible for "finish grading" all areas within the perimeter of the "construction site". The definition of the "construction site" is the area encompassing all disturbed areas that were disturbed as a result of the construction process relating to the general contract which this site contract was part of.
7. Disking and drying shall be performed in the event that poor soils are encountered for a minimum duration of 3 days. Contractor shall include provisions for this work at no additional cost.

DEMOLITION NOTES

1. The contractor shall be responsible for the demolition and removal of all items that impede the proper placement of any items proposed by this plan set.
2. The removal work shall include but not be limited to: obtaining all demolition permits required, removal of the existing trees, sealing of the existing water well(s), removal any septic system or dry wells (if any) and other items to complete the removals.
3. The contractor shall remove all materials deemed unsuitable by the engineer within eight inches of the proposed building footprint to the depth that such unsuitable materials exist. Voids shall be filled in accordance with the "Earthwork Notes" on this plan sheet.
4. Tree removal shall include the complete removal of all trees on the entire site, including all stumps and roots with the following exception: existing (healthy) trees (along the site perimeter) that are six inches or greater in diameter at breast height (DBH) shall be preserved and incorporate into the landscaping. if removal of said trees is deemed necessary by the contractor, the contractor shall offer written notification ten business days prior to demolition to the engineer. Written approval must be obtained prior to removal of said trees.
5. The contractor shall coordinate disconnection, removal, and relocation of the existing utilities with the appropriate utility companies. The contractor shall be responsible for all fees that are levied by utility companies in conjunction with demolition and removal of existing utilities.
6. Disposal of all materials shall comply with all local, state, and federal regulations. All waste material shall be disposed of off site. contractor shall be responsible for removal of all materials from the site along with all associated permits and regulatory requirements.
7. The contractor shall be familiar with the appropriate specifications for well abandonment, materials, procedures and access to equipment required to properly seal wells (if any). The contractor shall be responsible to obtain, complete, and file the appropriate forms through the City of Rockford and the Illinois Environment Protection Agency (IEPA).
8. The contractor shall maintain all existing utility services to adjacent lots. Interruption of services to adjacent lots shall not occur without proper approval. 48 hrs notice shall be given to the property owners prior to the connection of the new services. The contractor shall be responsible for costs associated with the connection of temporary utility services, if required, to facilitate construction staging.
9. The contractor shall maintain all existing parking, sidewalks, drives, etc. to be clear and free of any construction activity and/or excavated and hauled material to ensure easy and safe pedestrian and vehicular traffic to and from adjacent sites.
10. The contractor shall perform a full-depth saw cut along the perimeter of pavement removal that abuts existing pavement that is to remain.
11. Any damage sustained by items that are to remain in place shall be repaired or replaced to the owner's satisfaction at no cost to the owner.

GENERAL PAVING NOTES

1. All pavement shall be constructed in accordance with the following:
   A. All pavement shall be constructed in accordance with the Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction" (Standard Specifications), latest edition, including all updates and standards thereto.
   B. Standards and requirements of City of Rockford.
   C. Additional details and requirements provided in the contract documents, including this plan set.
2. All proposed pavement areas shall be stripped of all topsoil and unsuitable material and excavated or filled to within 0.10 feet of design subgrade.
3. The subgrade of pavement areas shall be free of all unsuitable material and shall be compacted to a minimum 95 per cent of Standard proctor density.
4. The subgrade shall be proof rolled, inspected and approved by the City of Rockford prior to placing the base material. Notify the engineer at least 48 hours prior to finished subgrade preparation.
5. The earthwork contractor shall be responsible for removal of spoil material from the underground contractors, preparing the roadway subgrade, proof rolled, placing topsoil to a minimum depth of 4 inches to finished grade in the parkways areas only, grading of drainage swales, and all other tasks as directed by the owner or engineer.
6. The quantities contained in these documents are approximate and estimated, and are presented as a guide to the contractor in determining the scope of work. It is the Contractor's responsibility to determine all quantities and to become familiar with the site and soil conditions.
7. The paving Contractor is responsible for the final subgrade preparation, proof rolling, the pavement base, binder, and surface, and all final clean-up and related work associated with the paving operation.
8. The proposed pavement shall be of the type and thickness as specified in the engineering drawings, and constructed in strict conformance with the previously referenced IDOT standard specifications and City of Rockford.
9. Areas of deficient paving, including compaction, smoothness, thickness, and asphalt mixture, shall be delineated, removed, and replaced in compliance with Specifications requirements unless corrected otherwise as directed and approved by the owner.
10. Field quality control tests specified herein will be conducted by the owner's Independent Testing Laboratory (ITL) at no cost to the contractor. Any testing and inspection resulting from the requirements of necessary permits by City of Rockford or the State of Illinois shall be at the contractor's expense. The contractor shall perform additional testing as considered necessary by the contractor for assurance of quality control. Retesting required as a result of failed initial tests shall be at the contractor's expense.
    A. Field testing, frequency, and methods may vary as determined by and between the owner,the ITL and City of Rockford.
    B. Testing shall be performed on finished surface of each asphalt concrete course for smoothness, using 10'_0" straightedge applied parallel with, and at right angles to centerline of paved area. The following tolerances in 10 ft shall not be exceeded: Base Course Surface: 1/4-inch, Wearing Course Surface: 1/8-inch.
    C. No ponding shall occur on paved surfaces.

ADDITIONAL ASPHALT PAVING NOTES

1. Weather Limitations:
   A. Apply prime and tack coats when ambient or base surface temperature is above 40 F, and when temperature has been above 35 F for 12 hours immediately prior to application. Do not apply when base is wet, contains excess moisture, during rain, or when frozen.
   B. Construct asphaltic concrete paving when ambient temperature is above 40 F.
2. Materials shall comply with the following standards of quality:
   A. Asphalt Cement: Comply with AASHTO M 226; Table 2 AC_10, AC_20, or AC_40, viscosity grade, depending on local mean annual air temperature in accordance with the following chart: Mean annual air temperature 45 F or lowerAC_10 85/100 pen. Mean annual air temperature between 45 F and 75 F AC_20 60/70 pen. Mean annual air temperature AC_40 75 F or higher
   B. Prime Coat: Medium curing cut_back asphalt or asphalt penetrating prime coat consisting of either MC_30 or SS_1h.
   C. Tack Coat: Emulsified asphalt; AASHTO M 140 or AASHTO M 208, SS_1h, CSS_1, or CSS_1h, diluted with 1 part water to 1 part emulsified asphalt.
   D. Mineral Filler: Rock or slag dust, hydraulic cement, or other inert material complying with AASHTO M 17, if recommended by state highway department specifications.
   E. Asphalt_Aggregate Mixture: Unless otherwise noted on the Drawings, design mix shall have minimum stability based on 75_blow Marshall complying with AASHTO T 245 of 1000 pounds with flow between 0.08 and 0.16 inches. The design mix shall be within sieve analysis and bitumen ranges specified below unless approved otherwise by the engineer prior to placement.
3. Mix design shall comply with Mix Design Table for East State Street and the following:
   A. Base Course: Illinois Department of Transportation (IDOT) approved mix for Hot-Mix Asphalt Surface Course, Mix "C", N50.
   B. Surface (Wearing) Course: Illinois Department of Transportation (IDOT) approved mix for Hot-Mix Asphalt Binder Course, IL-9.5, N50.
4. Remove loose material from compacted base material surface immediately before applying prime coat.
5. Establish and maintain required lines and elevations.
6. Cover the surfaces of curbs, gutters, manholes and other structures on which the asphaltic concrete mixture will be placed, with a thin, uniform coat of liquid asphalt. Where the asphaltic concrete mixture will be placed against the vertical face of an existing pavement, clean the vertical face to remove foreign substances and apply a coating of liquid asphalt at a rate of approximately 0.25 gallons per square yard.
7. Prime Coat:
   A. Apply to base material surfaces at least 24 hours in advance.
   B. Apply at minimum rate of 0.25 gal per sq. yd over compacted base material. Apply to penetrate and seal, but not flood surface.
   C. Take necessary precautions to protect adjacent areas from over spray.
   D. Cure and dry as long as necessary to attain penetration of compacted base and evaporation of volatile substances.
8. Tack Coat:
   A. Apply to contact surfaces of previously constructed asphaltic concrete base courses or Portland cement concrete and surfaces abutting or projecting into asphaltic concrete or into asphaltic concrete pavement.
   B. Apply tack coat to asphaltic concrete base course or sand asphalt base course. Apply emulsified asphalt tack coat between each lift or layer of full depth asphaltic concrete and sand asphalt bases and on surface of bases where asphaltic concrete paving will be constructed.
   C. Apply at minimum rate of 0.05 gal per sq. yd of surface.
   D. Allow drying until at proper condition to receive paving.
9. Place asphaltic concrete mixture on completed compacted subgrade surface, spread, and strike off. Spread mixture at following minimum ambient temperatures:
   A. Between 40 and 50 F: Mixture temperature: 285 F
   B. Between 50 and 60 F: Mixture temperature: 280 F
   C. Higher than 60 F: Mixture temperature: 275 F
      a. Whenever possible, spread pavement by finishing machine; however, inaccessible or irregular areas may be placed by hand methods. Spread hot mixture uniformly to required depth with hot shovels and rakes. After spreading, carefully smooth hot mixture to remove segregated course aggregate and rake marks. Rakes and lutes used for hand spreading shall be type designed for use on asphalt mixtures. Do not dump loads faster that they can be properly spread. Workers shall not stand on loose mixture while spreading.
      b. Paving Machine Placement: Apply successive lifts of asphaltic concrete in transverse directions with surface course placed parallel to flow of traffic. Place asphaltic paving in typical strips not less than 10'-0" wide. Asphaltic concrete pavement, including base and surface course, shall be placed in two or more equal lifts. Each lift shall be from 1 to 3 inches thick.
      c. Joints: Make joints between old and new pavements, or between successive days and work in manner that will provide continuous bond between adjoining work. Construction joints shall have same texture, density, and smoothness as other sections of asphaltic concrete course. Clean contact surfaces of joints and apply tack coat.
10. After being spread, mixture shall be compacted by rolling as soon as it will bear the weight of rollers without undue displacement. Number, weight, types of rollers, and sequences of rolling operations shall be such that the required density and surface are consistently attained while the mixture is in workable condition.
11. Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.
12. Breakdown Rolling: Perform breakdown or initial rolling immediately following rolling of joints and outside edge. Check surface after breakdown rolling and repair displaced areas by loosening and filling with hot material.
13. Second Rolling: Follow breakdown rolling as soon as possible while mixture is hot. Continue second rolling until mixture has been thoroughly compacted as follows:
14. Average Density: 96 percent of reference laboratory density according ASTM D1556, but not less than 94 percent nor greater than 100 percent.
    A. Finish Rolling: Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and course has attained maximum density.
    B. Patching: Remove and replace paving areas mixed with foreign materials and defective areas. Cut out such areas and fill with fresh, hot asphaltic concrete. Compact by rolling to maximum surface density and smoothness.
    C. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked. Any masked or marred finish surfaces shall be repaired or smoothed.
15. Asphalt paving joints shall conform to the following requirements:
    A. Place each asphaltic paving layer as continuous as possible to keep the number of joints to a minimum. Create joints between old and new pavement, between successive days work, and where the mixture has become cold (less than 140 degrees F). Make these joints in such a manner as to create a continuous bond between the old and new pavement construction courses.
    B. Offset joint of successive courses by at least 6 inches.
       d. Transverse Joints: If placing of material is discontinued or if material in place becomes cold, make a joint running perpendicular to the direction traveled by the paver. Before placement continues, trim the edge of the previously placed pavement to a straight line perpendicular to the paver and cut back to expose an even vertical surface for the full thickness of the course. When placement continues, position the paver on the transverse joint so that sufficient hot mixture will be spread in order to create a joint after rolling that conforms to the required smoothness. If the temperature of the previously placed pavement material drops below 140 degrees F before paving is resumed, give the exposed vertical face a thin coat of liquid asphalt just before paving is continued.
       e. Longitudinal Joints: Coat longitudinal joints that are not completed before the previously laid mixture has cooled to a temperature below 140 degrees F, with liquid asphalt just before paving is continued.

STORM SEWER NOTES

1. Storm sewer shall be constructed in accordance with the following:
   A. "Standard Specifications for Water and Sewer Main Construction in Illinois" (Standard Specifications), seventh edition dated 2014, and all revisions and supplements thereto.
   B. Concrete pavement shall be constructed in accordance with the Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction" (Standard Specifications), latest edition, including all updates and standards thereto.
   C. Standards and requirements of City of Rockford.
   D. Additional details and requirements provided in the contract documents, including this plan set.
   Where criteria of the aforementioned specifications conflict, the more stringent criteria shall be implemented.
2. Material Specifications. All storm sewer system elements shall conform to the following specifications:
   A. Sewer Pipe. All storm sewer pipe shall be reinforced concrete pipe unless otherwise specifically noted in this plan set.
      a. Sump pump service connection and storm sewer extension (4" and 6")--ABS sewer pipe or PVC sewer pipe ASTM D2751, SDR35, or ASTM D3034, SDR35, respectively.
      b. Concrete sewer pipe (10" diameter and smaller), minimum Class 3, ASTM C14.
      c. Reinforced concrete pipe (12" diameter and larger), circular reinforcement, minimum Class 3, wall B, ASTM C76.
      d. Reinforced concrete arch culvert pipe--double line reinforcement, minimum Class 3, ASTM C506.
      e. Reinforced concrete elliptical culvert pipe--minimum Class HE-III or VE-III, ASTM C507.
      f. PVC underdrain pipe (4" and 6")--ASTM D2729, SDR35.
      g. Galvanized corrugated steel culvert pipe AASHTO M246, Type B, minimum wall thickness 14 gauge (shall only be used for culverts).
   B. Sewer Pipe Joints.
      a. ABS pipe--ASTM C443.
      b. PVC pipe--ASTM D3212, push-on type, except underdrain pipe which shall have solvent welded joints.
      c. Reinforced concrete pipe--ASTM C443 ("O" ring).
   C. Casing Pipes. Steel pipe--ASTM A120, 3/8" minimum thickness.
   D. Manholes and Catch Basins.
      a. Precast reinforced concrete--ASTM C478.
      b. Size:
      c. For sewer eighteen inches in diameter or less, manhole shall have a forty-eight inches inside diameter.
      d. For sewer twenty-one to thirty-six inches in diameter, manhole shall have a sixty inch inside diameter.
      e. For sewer greater than thirty-six inches in diameter, manhole shall have an offset riser pipe of forty-eight inches inside diameter.
      f. Adjustment: No more than two precast concrete adjusting rings with six inch maximum height adjustment shall be allowed.
      g. Pipe and frame seals: All pipe connection openings shall be precast with resilient rubber watertight pipe to manhole sleeves or seals. External flexible watertight sleeves shall also extend from the manhole cone to the manhole frame. Pipe and frame seals: All pipe connection openings shall be made watertight with hydraulic cement. The hydraulic cement sealing pipe connections shall extend the full thickness of the structure wall. Hydraulic cement shall also be applied within the structure from the cone section, past all adjustment rings, to the frame.
      h. Bottom sections: All bottom sections shall be monolithically precast including bases and invert flowlines.
   E. Inlets.
      a. Precast reinforced concrete--ASTM C478 and ASTM C443.
      b. Size: Inlets shall have a twenty-four inch inside diameter and a maximum depth of four feet.
      c. Adjustment: No more than two precast concrete adjusting rings with six inch maximum height adjustment shall be allowed.
      d. Only one pipe connection is allowed, and it shall be precast with resilient rubber watertight pipe to manhole sleeves or seals. External flexible watertight sleeves shall also extend from the manhole cone to the manhole frame.
      e. Bottom sections: All bottom sections shall be monolithically precast including bases and invert flowlines.
   F. Castings (Unless otherwise noted within the plans)
      Manhole frame and cover--Use area inlet as listed below unless specified as a "closed lid" in this plan set. Closed lid frame and covers shall be Neenah No. R-1772-C embossed "STORM SEWER".
      a. Manhole steps--Neenah No. R-1981-I.
      b. Six inch curb and gutter inlet--Neenah No. R-3032.
      c. Yard inlet--Neenah No. R-2579.
      d. Parking lot inlet--Neenah No. R-2450.
   G. Crushed Granular Bedding: Crushed gravel or crushed stone course aggregate--ASTM C33, Size No. 67.
3. All end sections 24" and greater shall come equipped with trash grate and toe block in compliance with Illinois Department of Transportation standard.
4. Inspect pipe for defects and cracks before being lowered into the trench, piece by piece. Remove and replace defective, damaged or unsound pipe or pipe that has had its grade disturbed after laying. Protect open ends with a stopper to prevent earth or other material from entering the pipe during construction. Remove dirt, excess water, and other foreign materials from the interior of the pipe during the pipe laying progress.
5. Install pipe in accordance with manufacturer's written recommendations.
6. Commence installation at the lowest point for each segment of the route. Lay RCP with the groove or bell end up-stream.
7. Lay pipe to the required line and slope gradients with the necessary fittings, bends, manhole, risers and other appurtenances placed at the required location as noted on Drawings.
8. All storm sewers under and within two feet of any existing or proposed pavement shall be backfilled with granular backfill material IDOT gradation FA-6 or approved equal. (Grade 8 or Grade 9).
9. Compact backfill to 98 percent of maximum density in accordance with ASTM D698, (or 95 percent of maximum density, in accordance with ASTM D1557) obtained at optimum moisture as determined by AASHTO T180.
10. Do not backfill trenches until required tests are performed and utility systems comply with and are accepted by applicable governing authorities.
11. Backfill trenches to contours and elevations shown on the drawings.

GENERAL NOTES

1. Unless noted otherwise on this page, all earthwork, grading and paving shall be performed in accordance with Standard Specifications for Road and Bridge Construction in Illinois, State of Illinois Department of Transportation, Current Edition, and all revisions and supplements thereto, the specifications contained in this project manual, and the requirements and specifications of the City of Rockford. In case of conflict between the Standard Specifications and the project specific specifications in this manual, the specifications in the manual shall govern.
2. Unless noted otherwise on this page, all sanitary sewer, water main, and storm sewer shall be constructed in accordance with "Standard Specifications for Water and Sewer Main Construction" in Illinois latest edition and the Standard Specifications and Requirements of the Rock River Water Reclamation District (Sanitary) and City of Rockford (Water). The Contractor is responsible for familiarizing himself with the local agency requirements.
3. The designs represented in these plans are in accordance with established practices of civil engineering for the design functions and uses intended by the owner at this time. Neither the engineer nor its personnel can or do warrant these designs or plans as constructed except in the specific cases where the engineer inspects and controls the physical construction on a contemporary basis at the site.
4. The contractor, by agreeing to perform the work, agrees to indemnify and hold harmless the owner, the engineer, the city, and all agents and assigns of those parties, from all suits and claims arising out of the performance of said work, and further agrees to defend or otherwise pay all legal fees arising out of the defense of said parties.
5. In accordance with generally accepted construction practices, the contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours. Any construction observation by the engineer of the contractor's performance is not intended to include review of the adequacy of the contractors safety measures, in, or near the construction site. The contractor is responsible for maintaining adequate signs, barricades, fencing, traffic control devices and measures, and all other measures that are necessary to protect the safety of the site at all times.
6. Maintain access for vehicular and pedestrian traffic as required for other construction activities. Use traffic control devices to include temporary striping, flagmen, barricades, warning signs, and warning lights shall be in accordance with current MUTCD and IDOT standards.
7. All phases of the site work for this project shall meet or exceed industry standards and requirements set forth by the the owner's "Description of Work", City of Rockford, the State of Illinois, and this plan set.
8. The City of Rockford must be notified at least two (2) working days prior to the commencement or resumption of any work.
9. The contractor shall coordinate all permit and inspection requirements with responsible local, state, and federal agencies. The contractor shall include the costs of this coordination and all inspection fees in the bid price.
10. All work performed by the contractor shall come with a warranty against defects in workmanship and materials. This warranty period shall run concurrent with the required warranty periods the owner must provide to each local government agency, as a condition of the permit, but shall not be less than 12 months from the date of final acceptance by Owner.
11. The contractor will be held solely responsible for and shall take precautions necessary to avoid property damage to adjacent properties during the construction of this project.
12. All structures, inlets, pipes, swales, roads and public egresses must be kept clean and free of dirt and debris at all times.
13. Any field tiles encountered during construction shall be recorded showing size, location, and depth by the contractor, and either reconnected and rerouted or connected to the storm sewer system. The owner shall be notified immediately upon encountering any tile.
14. The contractor shall field verify the elevations of the benchmarks prior to commencing work. The contractor shall also field verify the location and elevation of existing pipe inverts, curb or pavement where matching into existing work. The contractor shall field verify horizontal control by referencing property corners to known property lines. Notify the engineer of discrepancies in either vertical or horizontal control prior to proceeding.
15. All elevations are on NAVD 88 datum.
16. Parking areas designated as A.D.A. and all sidewalk shall be compliant with state and local A.D.A. requirements.
17. Detectable warning plates per Article 424.09 of the IDOT specifications shall be placed at all locations where sidewalk that is to be replaced intersects public roads and at locations indicated in this plan set.
18. The contractor shall verify the location of all utilities in the field prior to construction. This includes sanitary sewer, water main, storm sewer, General Telephone, Commonwealth Edison, Northern Illinois Gas and cable television, if any. The J.U.L.I.E. number is 1-800-892-0123.
19. Property corners shall be carefully protected until they have been referenced by a Professional Land Surveyor.
20. The contractor shall keep careful measurements and records of all construction and shall furnish the Engineer, the Owner and the City with record drawings in a digital format compatible with AutoCAD Release 14 upon completion of his work.
21. Any excess dirt or materials shall be placed by the contractor onsite at the owner's direction or as indicated on the plans.
22. Notify the owner and City of Rockford of any existing wells. Obtain permit form the Illinois Bureau of Minerals and the State Water Survey. Cap and abandon wells in accordance with local, state, and federal regulations.
23. Finish grade shall in all areas not specifically reserved for storm water management shall drain freely. No ponding shall occur. Tolerances to be observed will be measured to the nearest 0.04 of a foot for paved surfaces and 0.10 of a foot for unpaved areas.

PAVEMENT MARKING NOTES

1. Apply two (2) coats for all pavement markings.
2. Material description: a fast drying, high hiding marking paint for concrete, brick and bituminous surface. this product has been designed for painting centerlines and edgelines of highways, City crosswalks and stop zones, parking lots, traffic aisles, etc. Do not apply to in temperatures below 50 F.

GENERAL NOTES AND CONDITIONS

1. All earthwork, grading and paving shall be performed in accordance with Standard Specifications for Road and Bridge Construction in Illinois, State of Illinois Department of Transportation, Current Edition, and all revisions and supplements thereto, the specifications contained in this project manual, and the requirements and specifications of the City of Rockford. In case of conflict between the Standard Specifications and the project specific specifications in this manual, the specifications in the manual shall govern.
2. All sanitary sewer, water main, and storm sewer shall be constructed in accordance with "Standard Specifications for Water and Sewer Main Construction" in Illinois latest edition and the Standard Specifications and Requirements of the Rock River Water Reclamation District (Sanitary) and North Park Public Water District (Water). The Contractor is responsible for familiarizing himself with the local agency requirements.
3. The City of Rockford Engineering department must be notified at least two (2) working days prior to the commencement or resumption of any work.
4. The Contractor shall keep careful measurements and records of all construction and shall furnish the Owner with record drawings upon completion of his work.
5. The Contractor shall verify the location of all utilities in the field prior to construction. This includes sanitary sewer, water main, storm sewer, telephone, electric, gas, and cable television, if any. The J.U.L.I.E. number is 1-800-892-0123.
6. All work performed by the Contractor shall come with a warranty against defects in workmanship and materials. This warranty period shall run concurrent with the required warranty periods the Owner must provide to each local government agency, as a condition of the permit. At a minimum, a 12 month warranty is required.
7. Any excess dirt or materials shall be disposed of by the Contractor offsite as directed by the owner at the Contractor's expense.
8. All structures, inlets, pipes, swales and roads must be kept clean and free of dirt and debris at all times.
9. The Contractor is responsible for maintaining adequate signs, barricades, fencing, traffic control devices and measures, and all other measures that are necessary to protect the safety of the site at all times. Contractor is responsible to provide secure storage for his own equipment. Designated storage locations will be identified for the contractor. Contractor will have the option of installing secure trailer or fenced yard.
10. The Contractor, by agreeing to perform the work, agrees to indemnify and hold harmless the Owner, the Engineer, the City of Rockford, and all agents and assigns of those parties, from all suits and claims arising out of the performance of said work, and further agrees to defend or otherwise pay all legal fees arising out of the defense of said parties.
11. All elevations are WinGIS datum.
12. Any field tiles encountered during construction shall be recorded showing size, location, and depth by the Contractor, and either reconnected and rerouted or connected to the storm sewer system. The Owner shall be notified immediately upon encountering any tile.
13. The Contractor shall field verify the elevations of the benchmarks prior to commencing work. The Contractor shall also field verify the location and elevation of existing pipe inverts, curb or pavement where matching into existing work. The Contractor shall field verify horizontal control by referencing property corners to known property lines. Notify the Engineer of discrepancies in either vertical or horizontal control prior to proceeding.
14. Property corners shall be carefully protected until they have been referenced by a Professional Land Surveyor.
15. All traffic control must be maintained at all times in accordance with current MUTCD and State of Illinois Standards.
16. Contractor shall use the owner's engineer, Arc Design Resources for construction layout services and shall contact Arc Design directly to negotiate required scope of services and fee. Contractor shall include all necessary construction layout in his bid. Contact Mr. Lee Sprecher at 815-484-4300 x238.

UNDERCUT UNIT PRICING

1. Contractor to include in their bid the cost to remove 200 CU YD of unsuitable soil and provide compacted engineered fill in its place. This amount is a contingency quantity and actual payment shall be based on the unit pricing that the contractor provides with their bid. Removal limits shall be determined by the Geotechnical Engineer assigned to this project.

ARC DESIGN RESOURCES INC.
5291 ZENITH PARKWAY
LOVES PARK, IL 61111
VOICE: (815) 484-4300
FAX: (815) 484-4303
www.arcdesign.com
Design Firm License No. 184-001334

PROJECT NAME
OWNER'S NAME

NASHOLD SCHOOL PARENT PARKING AND DROP OFF

3303 20TH STREET,
ROCKFORD, IL 61109

ROCKFORD PUBLIC SCHOOLS 205

CONSULTANTS

ISSUED FOR

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SHEET TITLE

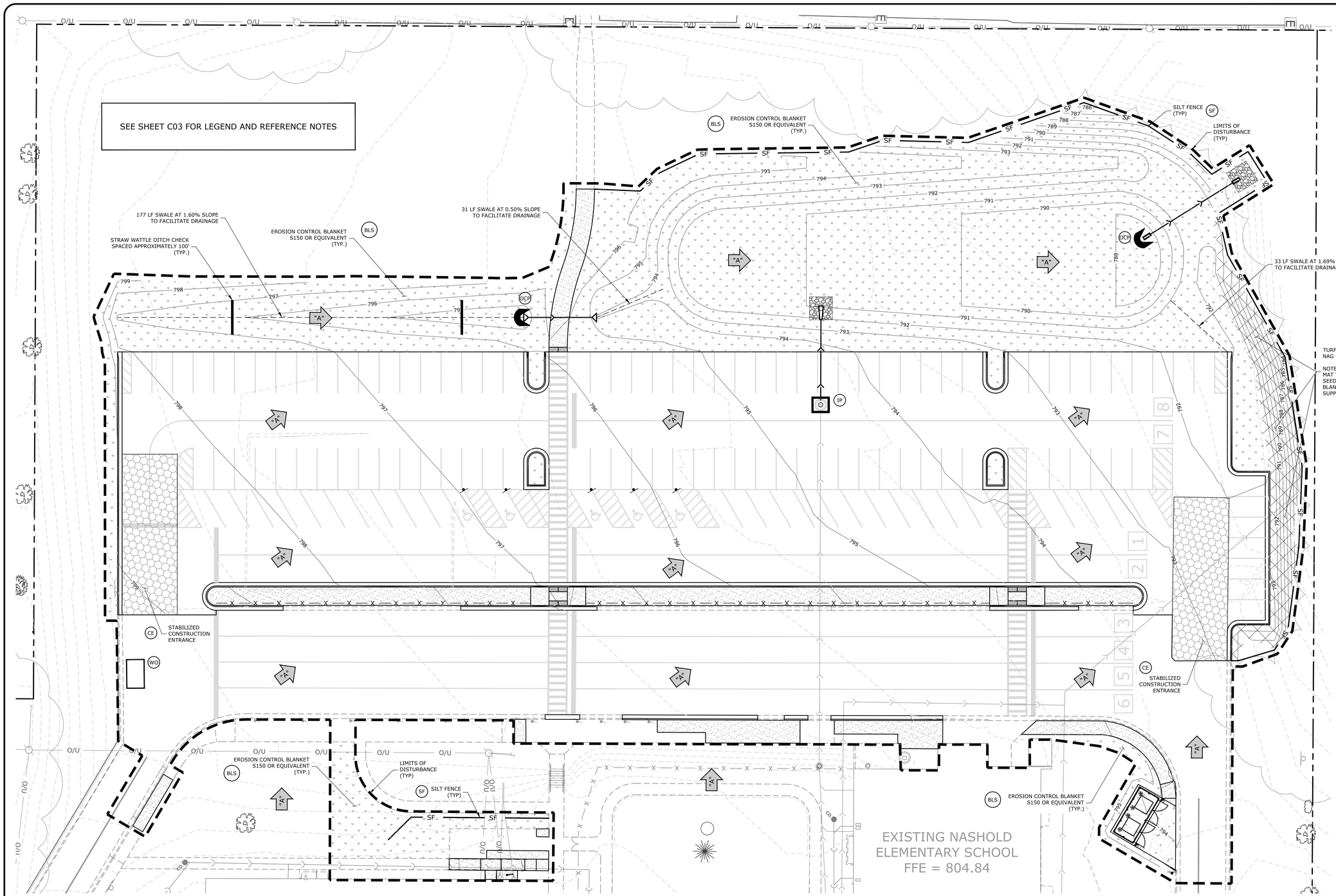
GENERAL NOTES

DRAWN	TRF
CHECKED	JSL
PM	JSL

PROJECT NUMBER
SHEET NUMBER

17044

C01



SWPPP NOTES

1. CONTRACTOR SHALL BE ABIDE BY ALL REQUIREMENTS SET FORTH BY THE LATEST REVISION OF THE ILLINOIS NPDES GENERAL PERMIT (ILR10) FOR STORM WATER POLLUTION PREVENTION. LOCAL, STATE, AND FEDERAL AUTHORITIES RESERVE THE RIGHT TO REVIEW THE SITE FOR COMPLIANCE AND IMPOSE APPLICABLE PENALTIES FOR NON-COMPLIANCE.
2. CONTRACTOR SHALL NOTE ANY CHANGES OR ADDITIONS TO THE SWPPP AND THE DATES OF SAID CHANGES OR ADDITIONS ON THIS SITE MAP.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND MODIFYING BMP'S INCLUDING INTERMEDIATE BMP'S AS WARRANTED BY SITE CONDITIONS.
4. THE EROSION CONTROL PLAN ACCOMPANIES A WRITTEN SWPPP DOCUMENT PROVIDED FOR THIS PROJECT. REFER TO WRITTEN SWPPP FOR FULL REQUIREMENTS.
5. GENERAL CONTRACTOR SHALL SELF PERFORM SWPPP INSPECTIONS AND MAINTENANCE.

LIMIT OF DISTURBANCE

SITE AREA:	4.69 AC
DISTURBED AREA:	2.79 AC
PRE-CONSTRUCTION	
IMPERVIOUS AREA:	1.58 AC
PERVIOUS AREA:	3.11 AC
RUNOFF COEFFICIENT:	0.47
POST-CONSTRUCTION	
IMPERVIOUS AREA:	2.19 AC
PERVIOUS AREA:	2.50 AC
RUNOFF COEFFICIENT:	0.55

LAND OWNER

ROCKFORD PUBLIC SCHOOLS
501 7TH STREET
ROCKFORD, IL 61104
815-966-3000

NPDES PERMIT

NPDES PERMIT# ILR10WS81
(ACTIVE)

STORMWATER OUTFLOWS

A FROM SITE - DRAINAGE AREA "A" (4.69 ACRES) CONSISTING OF BUILDING, PARKING LOT, AND LANDSCAPED AREAS. ALL FLOWS TREATED BY TEMPORARY INLET PROTECTION DEVICES, PERIMETER SILT FENCE AND OTHER BMP'S DESCRIBED IN THIS SWPPP AND THE ILLINOIS URBAN MANUAL DURING CONSTRUCTION.

TO RECEIVING WATERS - DISCHARGE WILL FLOW OFF SITE VIA SHEET FLOW AND PROPOSED STORM SEWER. THE FLOW WILL ENTER THE CITY OF ROCKFORD STORM SEWER SYSTEM. DISCHARGE WILL THEN ULTIMATELY FLOW VIA STORM SEWER INTO THE ROCK RIVER LOCATED APPROXIMATELY 2 MILES WEST OF THE SITE.

BENCHMARKS

DESCRIPTION	ELEVATION (WinGIS)
BENCHMARK 1 TOP ARROW BOLT ON FIRE HYDRANT LOCATED APPROX. 35' WEST OF 20TH STREET AND 25' SOUTH OF SOUTHERN DRIVEWAY	806.04
BENCHMARK 2 TOP ARROW BOLT ON FIRE HYDRANT LOCATED APPROX. 35' WEST OF 20TH STREET AND 30' NORTH OF NORTHERN DRIVEWAY	789.63

N O R T H
0 20' 30' 40'

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Design Firm License No. 184-001334

PROJECT NAME
OWNER'S NAME

NASHOLD SCHOOL PARENT PARKING AND DROP OFF

3303 20TH STREET,
ROCKFORD, IL 61109

ROCKFORD PUBLIC SCHOOLS 205

CONSULTANTS

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REVISIONS

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SHEET TITLE

SWPPP SITE MAP

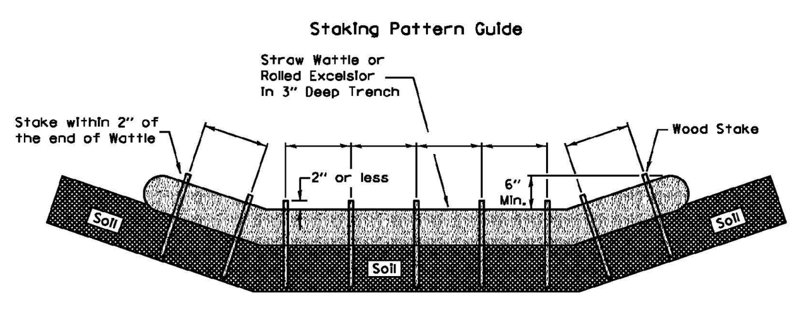
DRAWN	TRF
CHECKED	JSL
PM	JSL

PROJECT NUMBER
SHEET NUMBER

17044

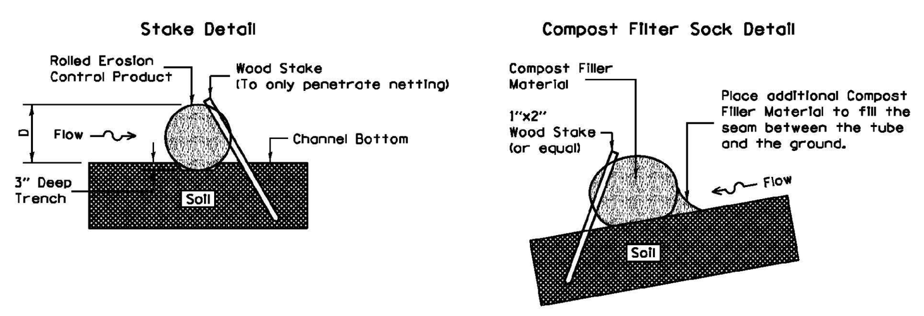
C02

ROLLED EROSION CONTROL PRODUCTS



Notes:

1. Overlap minimum is the diameter of the roll.
2. 4' spacing for wattles.
3. 2' spacing for rolled excelsior.
4. Or space according to manufacturer's specifications.



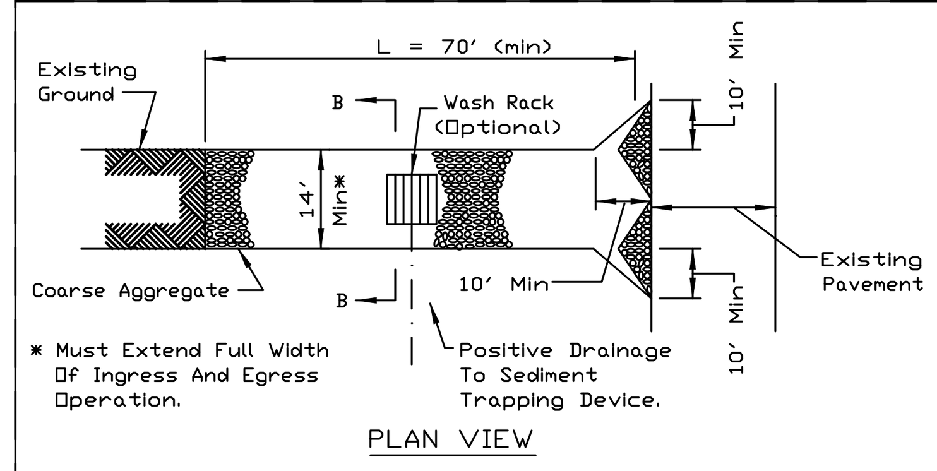
When compost filter sock ditch check is used, place a compost berm upstream of the filter sock (see IUM 805). A trench is not required.

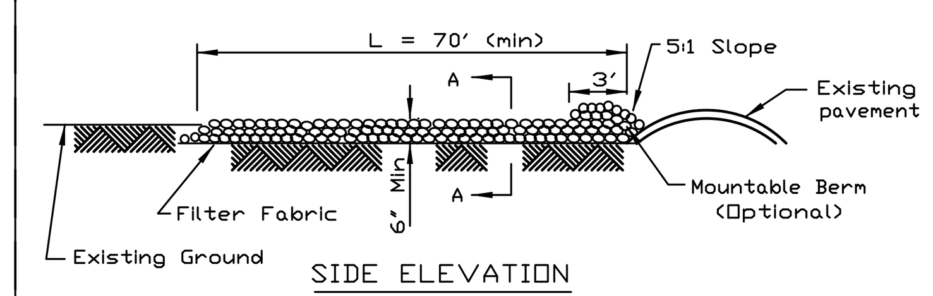
Notes:

1. Drawings are not to scale.
2. Ends of wattles or rolled excelsior shall be turned at least 6" upslope.
3. Recommended stakes are 1 1/8" wide x 1 1/8" thick x 30" long
4. Stakes shall not extend above the straw wattle more than 2".
5. Spacing: The toe of the upstream ditch check shall create a horizontal line with the top of the downstream ditch check.
6. When compost filter sock ditch check is used, place a compost berm upstream of the filter sock (see IUM 805). A trench is not required.

REFERENCE		STANDARD DWG. NO.
Project		IUM-514
Designed ____ Date ____		SHEET 1 OF 1
Checked ____ Date ____		DATE 8-19-11
Approved ____ Date ____		

STABILIZED CONSTRUCTION ENTRANCE PLAN



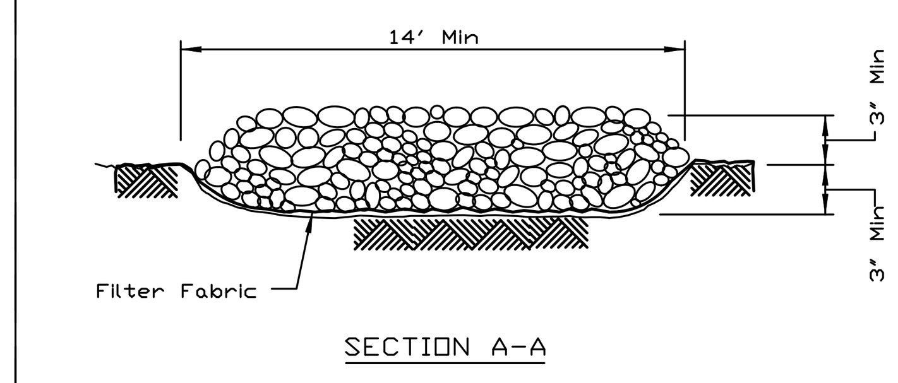


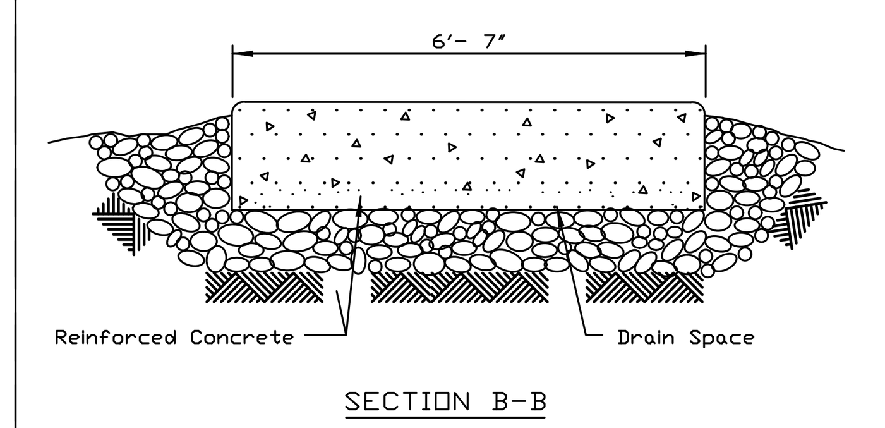
NOTES:

1. Filter fabric shall meet the requirements of material specification 592 GEOTEXTILE, Table I or 2, Class I, II or IV and shall be placed over the cleared area prior to the placing of rock.
2. Rock or reclaimed concrete shall meet one of the following IDOT coarse aggregate gradation, CA-1, CA-2, CA-3 or CA-4 and be placed according to construction specification 25 ROCKFILL using placement Method 1 and Class III compaction.
3. Any drainage facilities required because of washing shall be constructed according to manufacturers specifications.
4. If wash racks are used they shall be installed according to the manufacturer's specifications.

REFERENCE		STANDARD DWG. NO.
Project	NRCS Natural Resources Conservation Service	IL-630
Designed ____ Date ____		SHEET 1 OF 2
Checked ____ Date ____		DATE 8-18-94
Approved ____ Date ____		

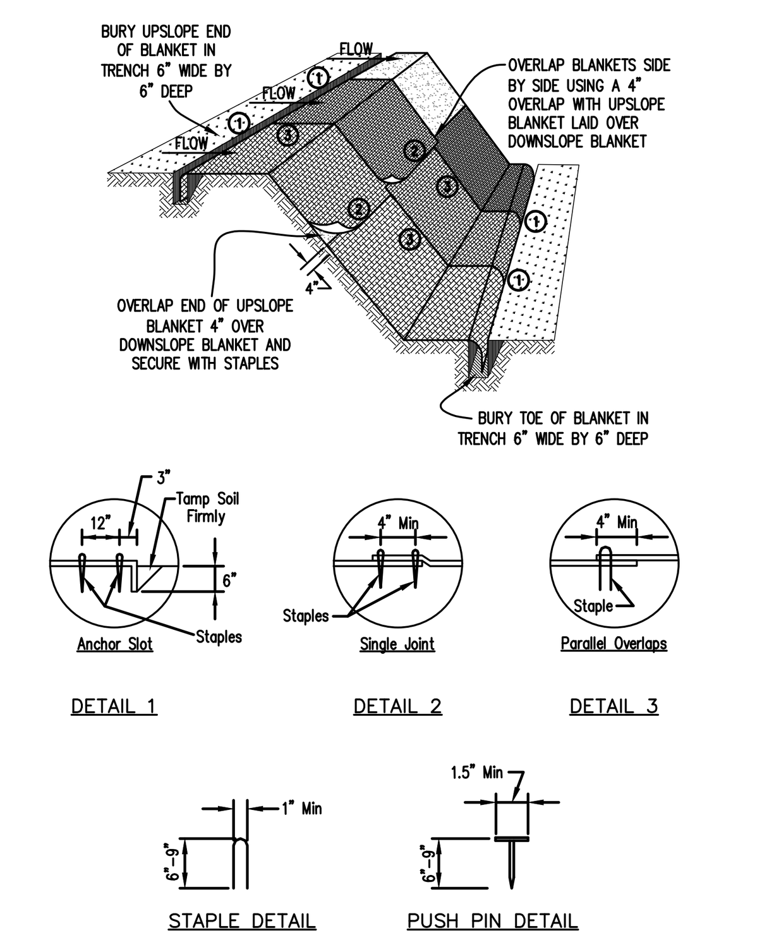
STABILIZED CONSTRUCTION ENTRANCE PLAN





REFERENCE		STANDARD DWG. NO.
Project	NRCS Natural Resources Conservation Service	IL-630
Designed ____ Date ____		SHEET 2 OF 2
Checked ____ Date ____		DATE 8-18-94
Approved ____ Date ____		

AUTOCAD2006



NOTES:

1. Staples shall be placed in a diamond pattern at 2 per s.y. for stiched blankets. Non-stiched shall use 4 staples per s.y. of material. This equates to 200 staples with stiched blanket and 400 stapels with non-stiched blanket per 100 s.y. of material.
2. Staple or push pin lengths shall be selected based on soil type and conditions. (minimum staple length is 6")
3. Erosion control material shall be placed in contact with the soil over a prepared seedbed.
4. All anchor slots shall be stapled at approximately 12" intervals.

EROSION CONTROL BLANKET INSTALLATION DETAILS

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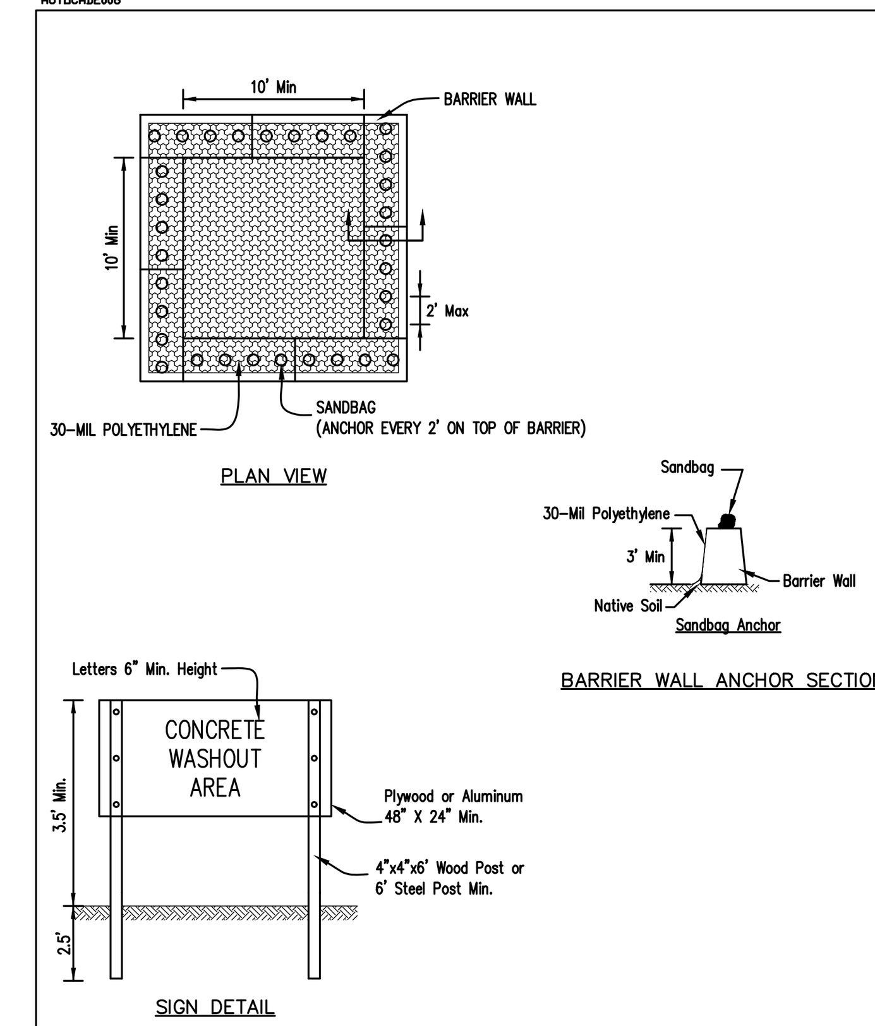


NOTES:

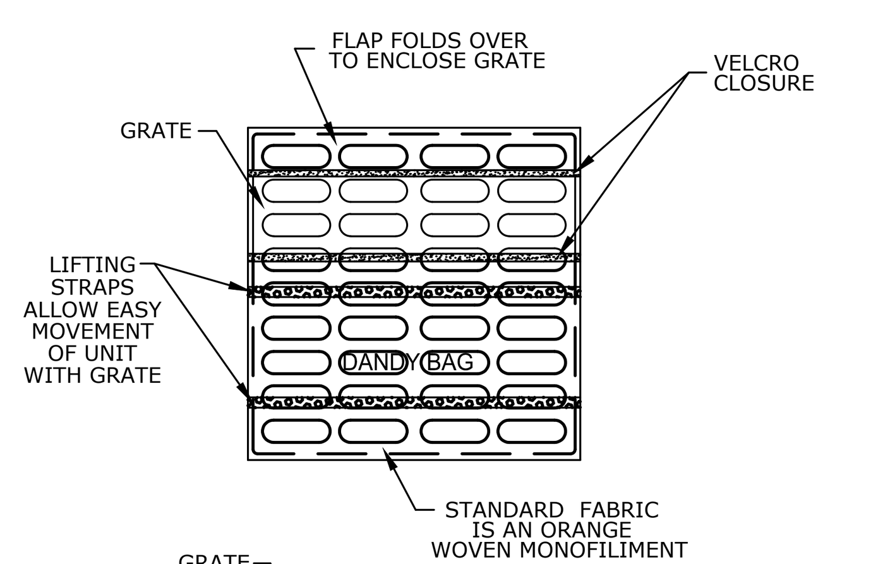
1. Maintaining temporary concrete washout facilities shall include removing and disposing of hardend concrete and/or slurry and returning the facilities to a functional condition.
2. Facility shall be cleaned or reconstructed in a new area once washout becomes two-thirds full.

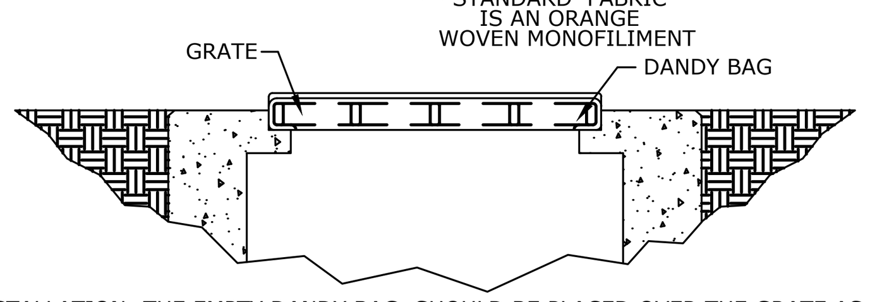
TEMPORARY CONCRETE WASHOUT FACILITY – BARRIER WALL

TEMP. DANDY PRODUCTS, INC. DANDY BAG

NOT TO SCALE

(IP2 ALT)



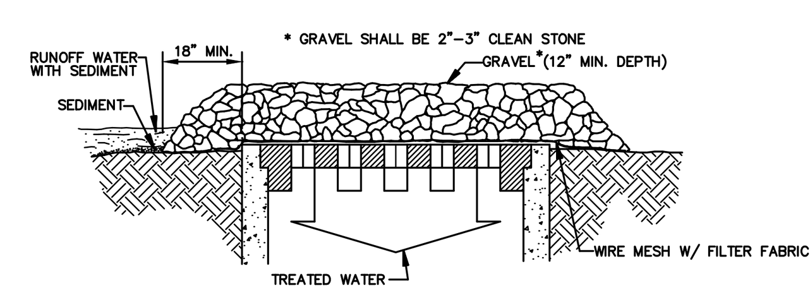


INSTALLATION: THE EMPTY DANDY BAG SHOULD BE PLACED OVER THE GRATE AS THE GRATE STANDS ON END. IF USING OPTIONAL OIL ABSORBENTS; PLACE ABSORBENT PILLOW IN POUCH, ON THE BOTTOM (BELOW-GRADE SIDE) OF THE UNIT. ATTACH ABSORBENT PILLOW TO TETHER LOOP. TUCK THE ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING DEVICES (DO NOT RELY ON LIFTING DEVICES TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO ITS FRAME.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE DANDY BAG AS NEEDED. IF USING OPTIONAL OIL ABSORBENTS; REMOVE AND REPLACE ABSORBENT PILLOW WHEN NEAR SATURATION.

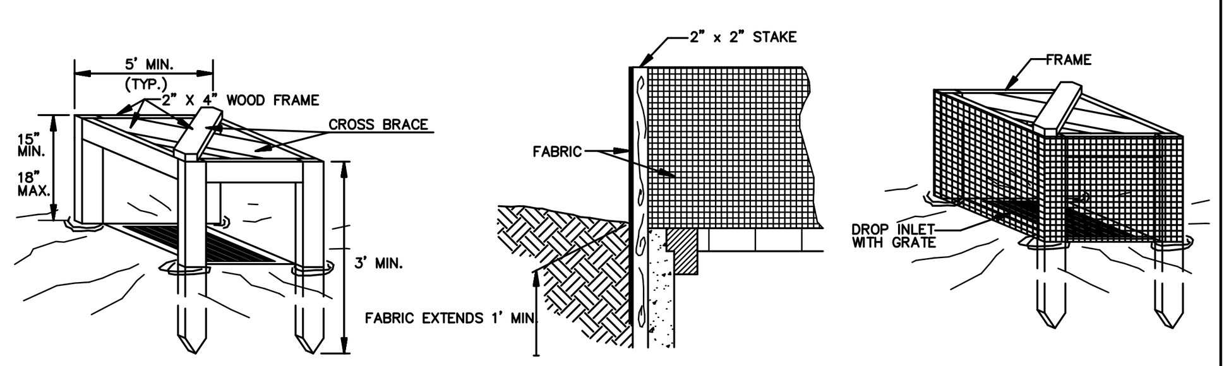
TEMP. GRAVEL AND WIRE MESH INLET SEDIMENT FILTER (IP2)

NOT TO SCALE



TEMP. SILT FENCE INLET PROTECTION (IP1)

NOT TO SCALE



EROSION CONTROL REFERENCE NOTES

1.01 SEE CONSTRUCTION EXIT DETAIL. THE CONSTRUCTION EXIT SHALL BE A MINIMUM OF 24' IN WIDTH AND 70' FEET IN LENGTH FROM EXISTING PAVED SURFACE. ALL CONSTRUCTION TRAFFIC MUST UTILIZE CONSTRUCTION EXITS PER DETAIL TO ACCESS THE PUBLIC ROAD. DURING CONSTRUCTION, THE CONSTRUCTION EXITS MAY BE SHIFTED AT THE CONTRACTOR'S DISCRETION TO FACILITATE GRADING OPERATION. EXIT MUST TERMINATE AT EXISTING PAVED SURFACE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE RUNOFF FROM THE CONSTRUCTION EXIT IS DIRECTED BACK TOWARD THE SITE OR THAT THE RUNOFF IS CLEAR OF SEDIMENT.

1.02 THE CONTRACTOR MAY PERMANENTLY REMOVE ANY PORTION OF THE PERIMETER SILT FENCE AFTER ESTABLISHMENT OF FINAL GRADE AND/OR FINAL STABILIZATION RENDERS THE RESPECTIVE PORTION OF THE PERIMETER SILT FENCE UPSTREAM OF A DISTURBANCE AND/OR INEFFECTIVE AS A BEST MANAGEMENT PRACTICE. ANY SUCH REMOVAL SHALL BE NOTED ON THE SWPPP SITE MAPS ALONG WITH UPSTREAM STABILIZATION AND GRADING CONDITIONS.

1.03 NO STRUCTURE SHALL BE ALLOWED TO BE PROTECTED WITH ANY MEASURE OTHER THAN THOSE DETAILED IN THIS SWPPP SITE MAP FOR MORE THAN 48 HOURS OR IF RAIN IS IMMINENT. STRUCTURES WITH CLOSED LIDS WILL NOT REQUIRE PROTECTION FOLLOWING INSTALLATION OF LID. CONTRACTOR SHALL NOTE TIME STRUCTURE INSTALLATION (AND PROTECTION INSTALLATION, INCLUDING TYPES OF PROTECTION) ARE EMPLOYED. WHENEVER PIPE INSTALLATION IS HALTED FOR MORE THAN 24 HOURS OR WHEN RAIN IS IMMINENT, THE OPEN END SHALL BE PROTECTED WITH A TEMPORARY BULK HEAD. A 3/4" SHEET OF PLYWOOD THAT EXTENDS 6" BEYOND THE OUTSIDE DIAMETER OF THE PIPE SHALL BE PLACED AGAINST THE EXPOSED PIPE END. GRAVEL SHALL BE PLACED AGAINST THE PLYWOOD IN SUFFICIENT QUANTITY SO AS TO ENSURE THE TIGHTEST POSSIBLE SEAL. THE TRENCH SHALL BE DEWATERED PRIOR TO REMOVING THE BULKHEAD.

1.04 CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF ILLINOIS NPDES GENERAL PERMIT AND THE SITE NOI.

1.05 PERMANENT SEED MIX FOR TURF AREAS ON PRIVATE PROPERTY SHALL CONFORM TO IDOT STANDARDS AND SPECIFICATIONS FOR CLASS 1 (LAWN MIXTURE).

1.06 PERMANENT EROSION CONTROL FABRIC NAG S150 SHALL BE APPLIED TO ALL DISTURBED TURF AREAS ALONG WITH PERMANENT SEEDING. FOLLOW MANUFACTURER SPECIFICATIONS FOR INSTALLATION. CONTRACTOR SHALL NOTE ALL AREAS WHERE NAG SC150 HAS BEEN INSTALLED RELATIVE TO ASBUILT GRADES AND FURNISH THESE BOUNDARIES TO THE CIVIL ENGINEER UPON REQUEST. PERMANENT SEEDING SHOULD BE PLANTED AS SOON AS IT IS PRACTICAL TO ENSURE PROPER GERMINATION PRIOR TO TERMINATION OF PERMIT COVERAGE. THE CONTRACTOR SHALL PLANT PERMANENT SEEDING AS SPECIFIED ON THE LANDSCAPING PLAN AS SOON AS FINAL BASIN GRADES ARE ESTABLISHED AS SPECIFIED ON THE GRADING PLAN. SEE SITE LANDSCAPING PLAN FOR EXACT GROUND COVER TYPE AND LOCATION.

SWPPP LEGEND - SHEET C02

(SEE SITE PLAN SET FOR EXISTING SYMBOLS)

— – – —	EXISTING BOUNDARY LINE
▬ ▬ ▬ ▬	LIMITS OF DISTURBANCE
– – 800 – –	EXISTING CONTOUR LINE
—— 800 ——	PROPOSED CONTOUR LINE
———	EDGE OF PAVEMENT
——<——	PERMANENT STORM SEWER
X.XX	SEE SPECIFIC KEY NOTE ON THIS SHEET
"A"	DRAINAGE AREA

EROSION DETAILS (SEE DETAILS ON THIS SHEET FOR ITEMS BELOW)

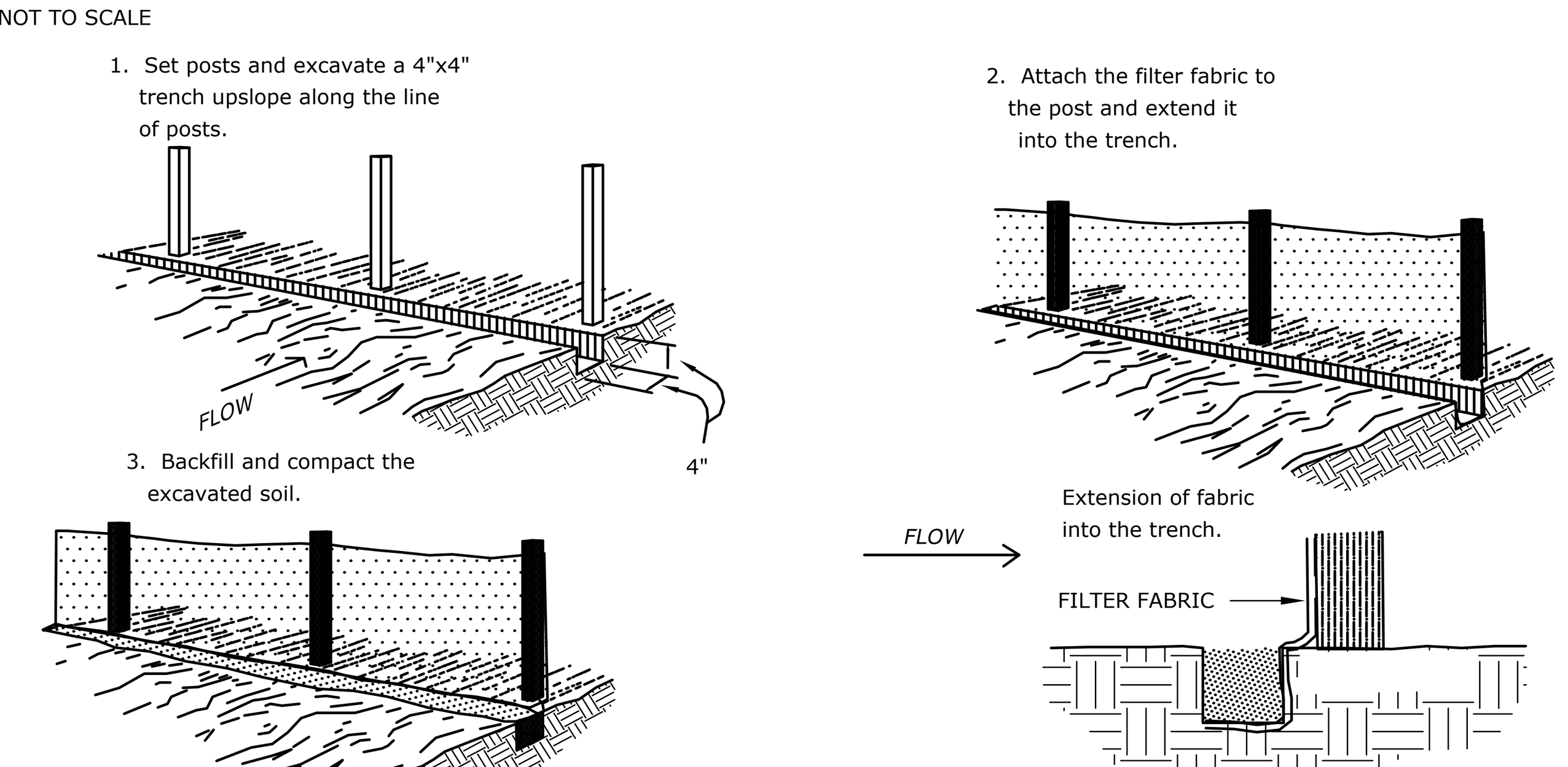
▨	(CE) TEMPORARY STONE CONSTRUCTION EXIT (1.01)
— SF —	(SF) TEMPORARY SILT FENCE (1.02)
□	(IP) TEMPORARY INLET PROTECTION PER STRUCTURE TYPE (1.03)
(BLS)	SLOPE PROTECTION BLANKET NAG S150 OR EQUAL ALL SLOPES 4:1 AND STEEPER SHALL RECEIVE SLOPE PROTECTIONS (1.06)
◖	(OCP) TEMPORARY OUTLET CONTROL PROTECTION
□	(WO) CONCRETE WASHOUT

RESTORATION DETAILS AND NOTES

▨	MINIMUM 6" TOPSOIL OVER EXISTING FILL OR IMPORTED FILL. EROSION CONTROL BLANKET OVER SEEDING CLASS 1 LAWN MIX
▨	RIPRAP CLASS 4. 10 SQ YD AT EACH FLUME OR CONCRETE END SECTION
▨	TURF REINFORCEMENT MAT NAG C350 OR BETTER 6" MINIMUM TOPSOIL SEEDING IDOT CLASS 1 LAWN MIX EROSION CONTROL BLANKET - 4' MINIMUM WIDTH

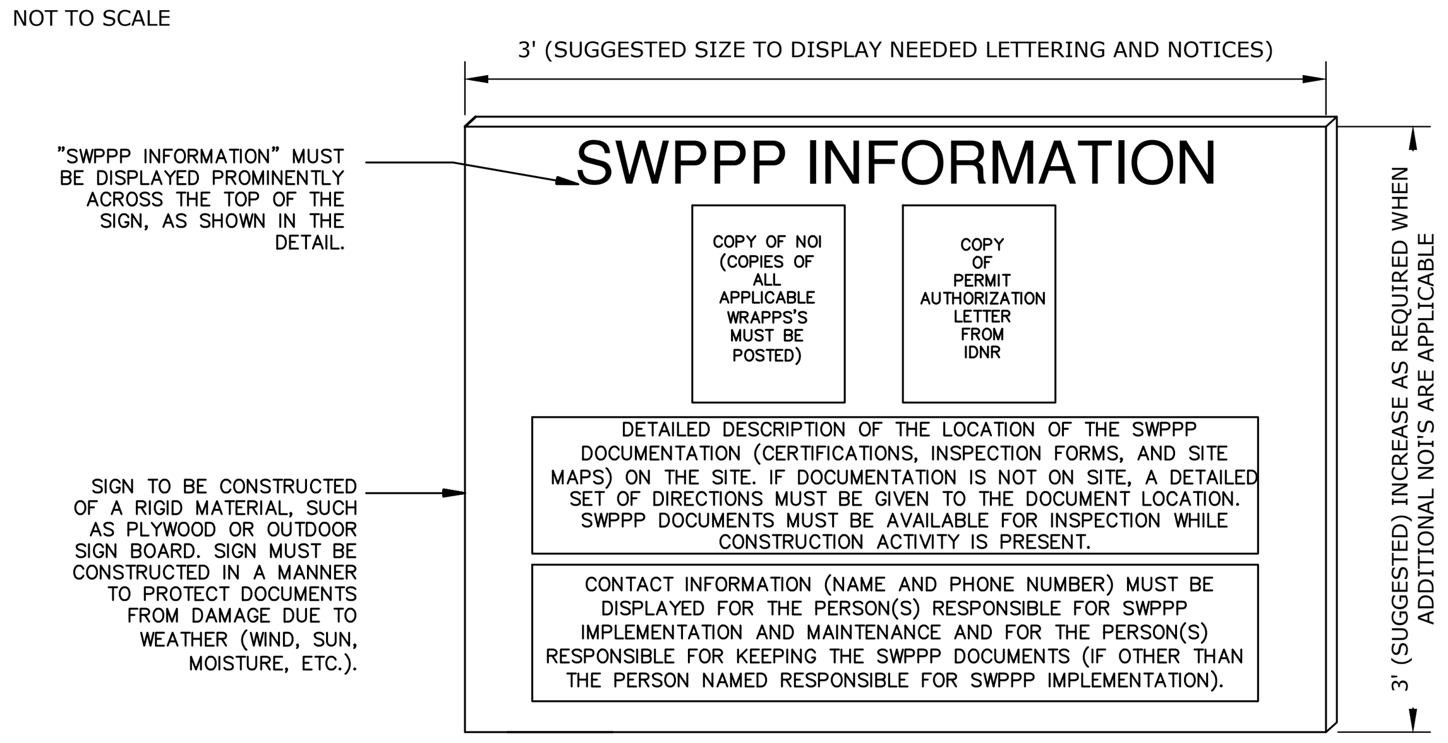
TEMP. SILT FENCE (PERIMETER) DETAIL (PSF) CONSTRUCTION OF A SILT FENCE

NOT TO SCALE



SWPPP INFORMATION SIGN (EXAMPLE)

NOT TO SCALE



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PROJECT NAME
OWNER'S NAME

NASHOLD SCHOOL PARENT PARKING AND DROP OFF

3303 20TH STREET,
ROCKFORD, IL 61109

ROCKFORD PUBLIC SCHOOLS 205

CONSULTANTS

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SHEET TITLE

SWPPP DETAILS

DRAWN	TRF
CHECKED	JSL
PM	JSL

PROJECT NUMBER
SHEET NUMBER

17044

C03

EXISTING GOAL POST TO BE REMOVED

SAWCUT AT LIMITS OF SIDEWALK REMOVAL

EXISTING GOAL POST TO BE REMOVED

EXISTING PCC SIDEWALK TO BE REMOVED

114'

EXISTING TREE REMOVAL APPROXIMATELY 0.45 AC

EXISTING ASPHALT PAVEMENT AND BASE TO BE REMOVED

REMOVE EXISTING "KEEP OUT" SIGN

EXISTING 4' DIA. DRYWELL
RIM = 795.29
INV (IN) = 791.80 (E, 12")
TO BE RECONSTRUCTED

EXISTING TREE TO BE REMOVED (TYP.)

12"

PLAYGROUND PERIMETER RAILROAD TIE WALLS TO BE REMOVED

REMOVE EXISTING BASKETBALL HOOP AND FOUNDATION. (4 TOTAL)

PLAYGROUND EQUIPMENT TO BE REMOVED BY OWNER. PLAYGROUND SURFACE TO BE REMOVED BY CONTRACTOR.

6"

EXISTING ASPHALT SURFACE TO BE REMOVED

REMOVE EXISTING SIGN

LIGHT POLE AND FOUNDATION TO BE REMOVED. REMOVE "NO PARKING" SIGN.

REMOVE 166 LF OF EXISTING FENCE

REMOVE 145 LF OF EXISTING FENCE

REMOVE EXISTING "KEEP OUT" SIGN

EXISTING ASPHALT PAVEMENT AND BASE TO BE REMOVED

CONCRETE CURB AND GUTTER TO BE REMOVED (TYP.)

PCC PAVEMENT TO BE REMOVED

EXISTING PCC SIDEWALK TO BE REMOVED

PCC PAVEMENT TO BE REMOVED

DUMPSTER ENCLOSURE TO BE RELOCATED. SALVAGE ALL SIDING PANELS AND GATES FOR REUSE.

REMOVE FENCE FABRIC TO HERE AND INSTALL NEW END POST

BLACKEN EXISTING PAVEMENT MARKING LINES (TYP.)

CONCRETE CURB AND GUTTER TO BE REMOVED (TYP.)

BLACKEN EXISTING PAVEMENT MARKING LINES (TYP.)

REMOVE EXISTING BOLLARDS INSIDE AND OUTSIDE OF DUMPSTER

11.3' 9.5' 22.9' 11.6' 10.3' 10' 48.7'

8.4' 15.1' 18.5' 15.3' 21' 41.2' 14.9' 27.6' 19.6'

4.9'

EXISTING PCC SIDEWALK TO BE REMOVED

LIGHT POLE AND FOUNDATION TO BE REMOVED

SAWCUT AT LIMITS OF SIDEWALK REMOVAL (TYP.)

EXISTING PCC SIDEWALK TO BE REMOVED SEE BOXED NOTE

CONCRETE CURB HEAD RAMPS FROM 6" TO 0"

RELOCATE EXISTING "DO NOT ENTER" SIGN

SAWCUT BACK OF CURB FOR ADA RAMP AND DEPRESSED CURB AREA

EXISTING PCC SIDEWALK TO BE REMOVED

16.3' 27'

EXISTING PCC STOOP AND RAILINGS TO BE REMOVED

REMOVE AND REPLACE SIDEWALK PANELS FOR DRAIN PIPE INSTALLATION

EXISTING NASHOLD ELEMENTARY SCHOOL
FFE = 804.84

LEGEND

- PROPERTY LINE
- EXISTING CURB & GUTTER TO BE REMOVED
- 6"W — EXISTING WATER MAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- E — EXISTING BURIED ELECTRIC
- 750 — EXISTING CONTOUR
- EXISTING ASPHALT SURFACE TO BE REMOVED. GRADE AND SHAPE EXISTING BASE COURSE.
- EXISTING ASPHALT PAVEMENT TO BE REMOVED. BASE COURSE TO BE SALVAGED.
- EXISTING CONCRETE PAVEMENT TO BE REMOVED. BASE COURSE TO BE SALVAGED.
- EXISTING MANHOLE OR CATCH BASIN
- CO — EXISTING SANITARY STRUCTURE
- EXISTING LIGHT POLE
- XX" — TREE TO BE REMOVED, APPROXIMATE DIAMETER
- EVERGREEN TREE
- BUSH
- EXISTING SIGN
- EXISTING SIGN TO BE REMOVED

BENCHMARKS

DESCRIPTION	ELEVATION (WinGIS)
BENCHMARK 1 TOP ARROW BOLT ON FIRE HYDRANT LOCATED APPROX. 35' WEST OF 20TH STREET AND 25' SOUTH OF SOUTHERN DRIVEWAY	806.04
BENCHMARK 2 TOP ARROW BOLT ON FIRE HYDRANT LOCATED APPROX. 35' WEST OF 20TH STREET AND 30' NORTH OF NORTHERN DRIVEWAY	789.63

NOTE: CONTRACTOR MAY ELECT TO REMOVE AND REPLACE FULL SIDEWALK PANELS IF MORE CONVENIENT AND AT NO ADDITIONAL CHARGE

N O R T H
0 20' 30' 40'

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SHEET TITLE

EXISTING CONDITIONS AND REMOVAL PLAN

DRAWN	TRF
CHECKED	JSL
PM	JSL

PROJECT NUMBER
SHEET NUMBER

17044

C04

LEGEND

- PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- PROPOSED CONCRETE CURB AND GUTTER (REVERSE PITCH)
- PROPOSED CONCRETE CURB AND GUTTER (ACCEPTING)
- EXISTING CONCRETE CURB AND GUTTER
- STANDARD DUTY ASPHALT SURFACE OVER SHAPED AGGREGATE BASE.
- STANDARD DUTY ASPHALT PAVEMENT OVER SHAPED AGGREGATE BASE.
- HEAVY DUTY CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- PROPOSED STRIPING
- EXISTING STRIPING
- 16 — NUMBER OF PROPOSED PARKING SPACES
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING SIGN
- BOLLARD

PAVEMENT MARKING KEY

SYSL/4" - SINGLE YELLOW SOLID LINE / 4" WIDE
SWSL/4" - SINGLE WHITE SOLID LINE / 4" WIDE
SWSL/8" - SINGLE WHITE SOLID LINE / 8" WIDE
SWSL/12" - SINGLE WHITE SOLID LINE / 12" WIDE

PARKING DATA TABLE

REQUIRED PARKING:		PROVIDED PARKING:	
STANDARD STALLS	115	STANDARD STALLS	126
ADA STALLS	5	ADA STALLS	5
TOTAL STALLS	120	TOTAL STALLS	131

LAYOUT NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATIONS OF THE BENCHMARKS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL ALSO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING PIPE INVERTS, FLOOR ELEVATIONS, CURB OR PAVEMENT WHERE MATCHING INTO EXISTING WORK. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL CONTROL BY REFERENCING SHOWN COORDINATES TO KNOWN PROPERTY LINES. NOTIFY ENGINEER OF DISCREPANCIES IN EITHER VERTICAL OR HORIZONTAL CONTROL PRIOR TO PROCEEDING WITH WORK.
2. REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS.
3. DIMENSIONS THAT LOCATE THE BUILDING ARE MEASURED TO THE OUTSIDE FACE OF THE BUILDING.
4. SIGN CONSTRUCTION AND PAVEMENT MARKINGS SHALL CONFORM TO THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.
5. ALL RADII ARE DIMENSIONED TO THE EDGE OF PAVEMENT.
6. SOME FIELD ADJUSTMENTS MAY BE NECESSARY AT POINTS WHERE PROPOSED PAVEMENT, CURB AND SIDEWALKS MEET EXISTING PAVEMENT, CURB AND SIDEWALKS. REVIEW ANY REQUIRED CHANGES WITH ENGINEER PRIOR TO CONSTRUCTION OF WORK.

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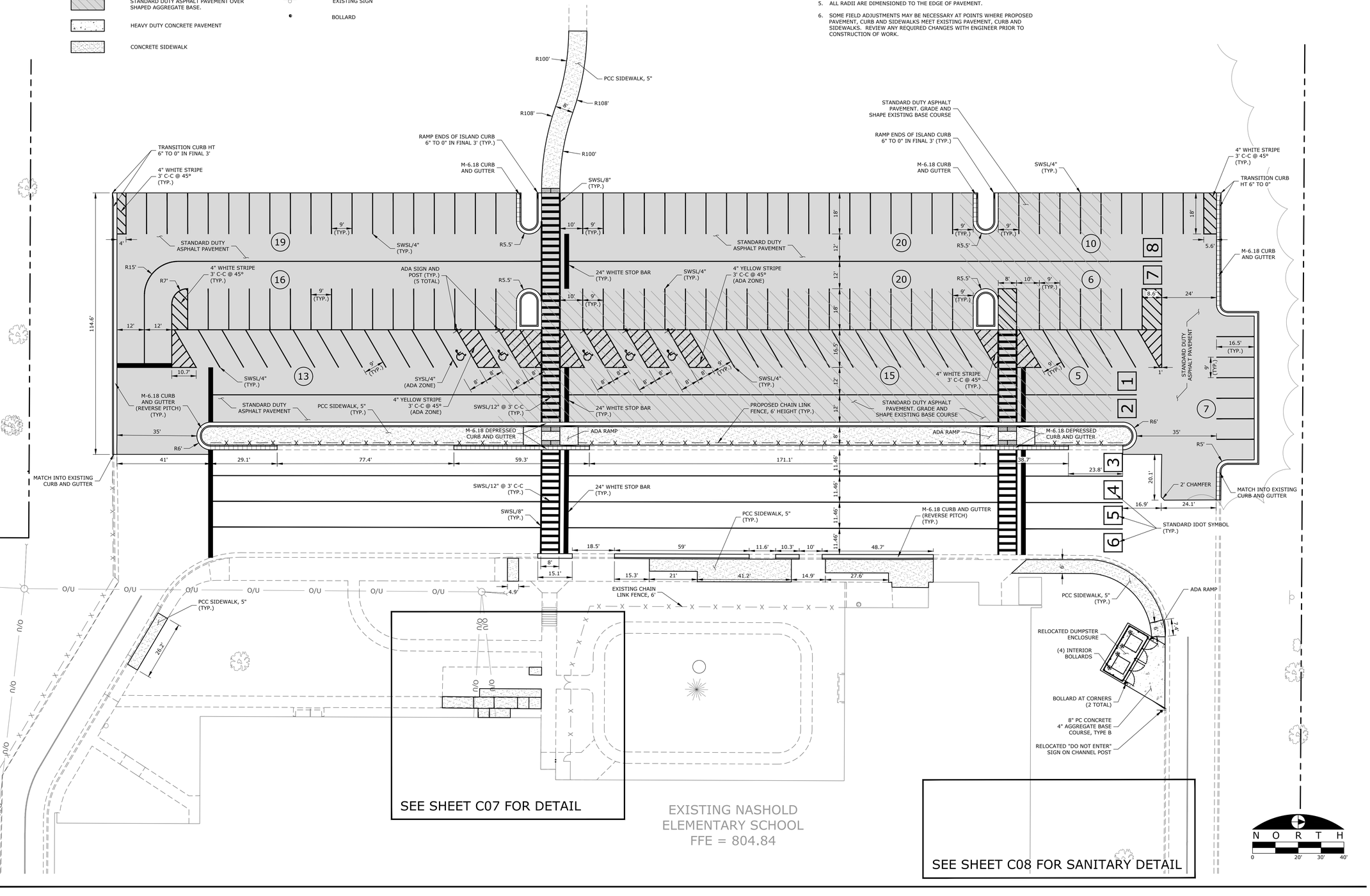

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SHEET TITLE

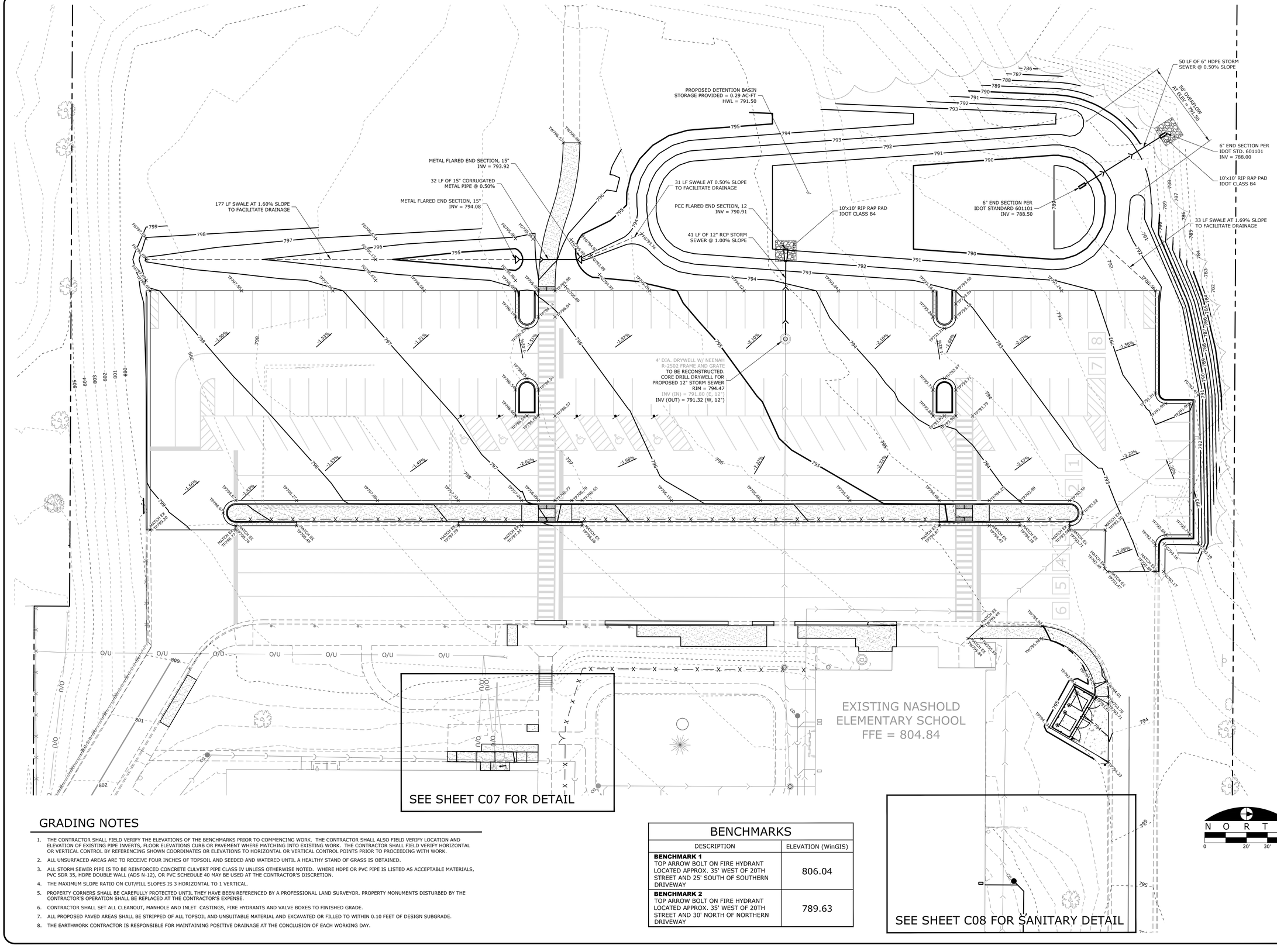
LAYOUT PLAN

DRAWN	TRF
CHECKED	JSL
PM	JSL

PROJECT NUMBER
SHEET NUMBER

17044

C05



GRADING NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATIONS OF THE BENCHMARKS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL ALSO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING PIPE INVERTS, FLOOR ELEVATIONS CURB OR PAVEMENT WHERE MATCHING INTO EXISTING WORK. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL OR VERTICAL CONTROL BY REFERENCING SHOWN COORDINATES OR ELEVATIONS TO HORIZONTAL OR VERTICAL CONTROL POINTS PRIOR TO PROCEEDING WITH WORK.
2. ALL UNSURFACED AREAS ARE TO RECEIVE FOUR INCHES OF TOPSOIL AND SEEDED AND WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
3. ALL STORM SEWER PIPE IS TO BE REINFORCED CONCRETE CULVERT PIPE CLASS IV UNLESS OTHERWISE NOTED. WHERE HDPE OR PVC PIPE IS LISTED AS ACCEPTABLE MATERIALS, PVC SDR 35, HDPE DOUBLE WALL (ADS N-12), OR PVC SCHEDULE 40 MAY BE USED AT THE CONTRACTOR'S DISCRETION.
4. THE MAXIMUM SLOPE RATIO ON CUT/FILL SLOPES IS 3 HORIZONTAL TO 1 VERTICAL.
5. PROPERTY CORNERS SHALL BE CAREFULLY PROTECTED UNTIL THEY HAVE BEEN REFERENCED BY A PROFESSIONAL LAND SURVEYOR. PROPERTY MONUMENTS DISTURBED BY THE CONTRACTOR'S OPERATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
6. CONTRACTOR SHALL SET ALL CLEANOUT, MANHOLE AND INLET CASTINGS, FIRE HYDRANTS AND VALVE BOXES TO FINISHED GRADE.
7. ALL PROPOSED PAVED AREAS SHALL BE STRIPPED OF ALL TOPSOIL AND UNSUITABLE MATERIAL AND EXCAVATED OR FILLED TO WITHIN 0.10 FEET OF DESIGN SUBGRADE.
8. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AT THE CONCLUSION OF EACH WORKING DAY.

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SHEET TITLE

GRADING PLAN

DRAWN	TRF
CHECKED	JSL
PM	JSL

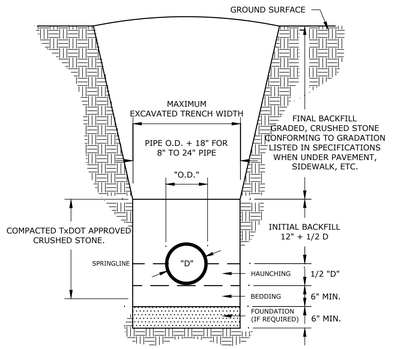
PROJECT NUMBER
SHEET NUMBER

17044

C06

PVC PIPE EMBEDMENT DETAIL

NOT TO SCALE



PIPE EMBEDMENT DETAIL

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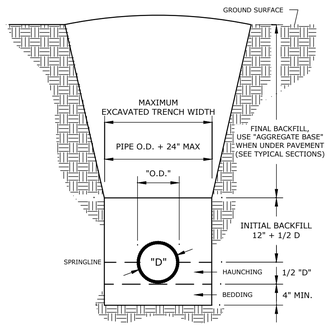
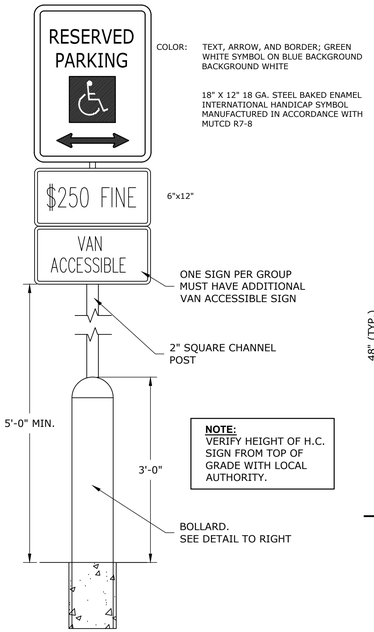
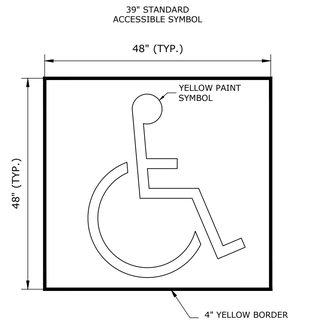


ACCESSIBLE PARKING SIGN DETAIL

NOT TO SCALE

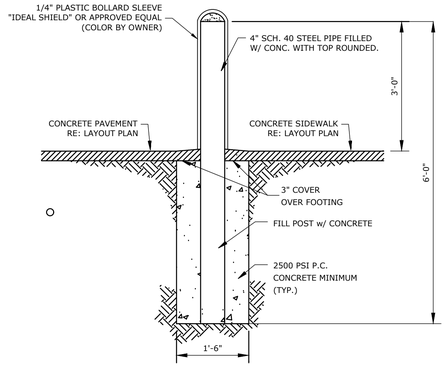




ACCESSIBLE SYMBOL

STANDARD BOLLARD DETAIL

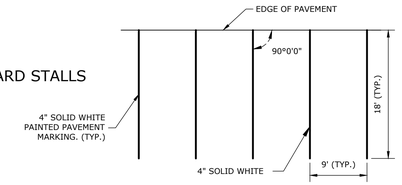
NOT TO SCALE



TYPICAL 90 DEGREE PARKING STRIPING DETAIL

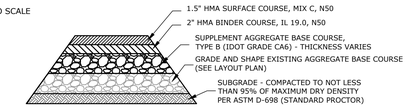
NOT TO SCALE

90° STANDARD STALLS

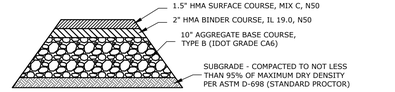


PAVEMENT DETAILS

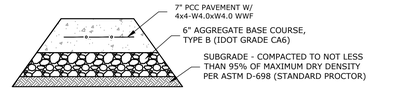
NOT TO SCALE



STANDARD ASPHALT PAVEMENT (SURFACE REPLACEMENT)



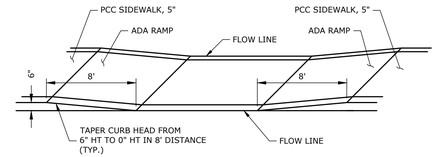
STANDARD ASPHALT PAVEMENT (PARKING LOT)



HEAVY DUTY PCC PAVEMENT

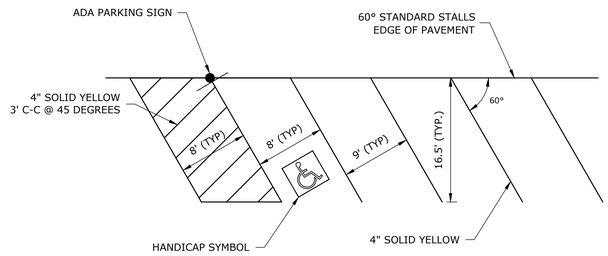
ADA RAMP DETAIL AT SIDEWALK MEDIAN

NOT TO SCALE



TYPICAL 60 DEGREE PARKING STRIPING DETAILS

NOT TO SCALE



PCC SIDEWALK RAMP SECTION

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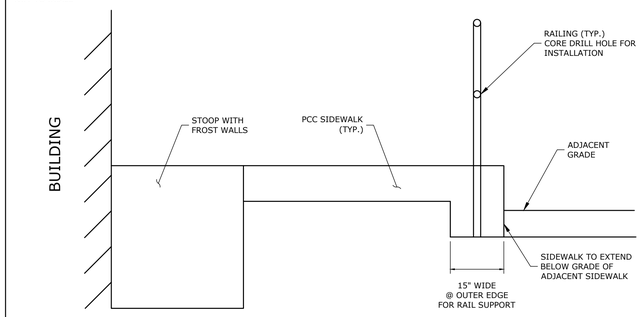
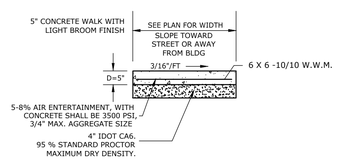
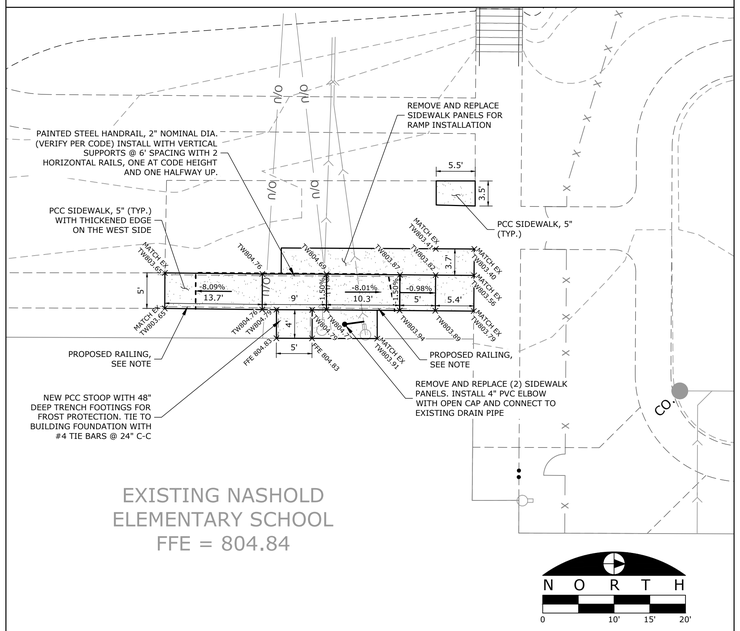


PCC SIDEWALK DETAIL



PCC SIDEWALK RAMP DETAIL AT GYMNASIUM DOOR



ARC DESIGN RESOURCES INC.
5291 ZENITH PARKWAY
LOVES PARK, IL 61111
VOICE: (815) 484-4300
FAX: (815) 484-4303
www.arcdesign.com
Design Firm License No. 184-001334

PROJECT NAME
OWNER'S NAME

NASHOLD SCHOOL PARENT PARKING AND DROP OFF

3303 20TH STREET, ROCKFORD, IL 61109

ROCKFORD PUBLIC SCHOOLS 205

CONSULTANTS

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SHEET TITLE

DETAILS

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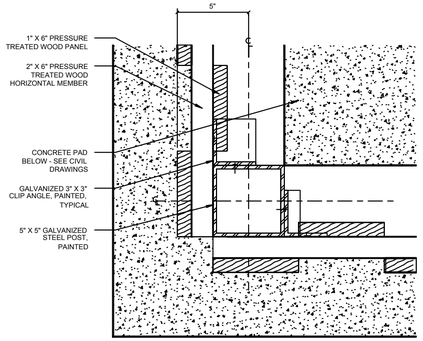
PM	JSL

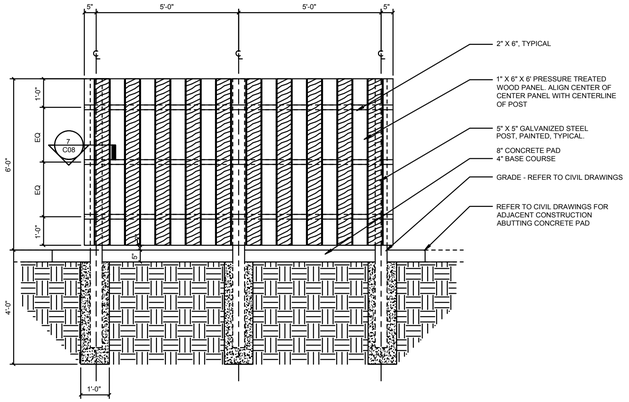
PROJECT NUMBER
SHEET NUMBER

17044

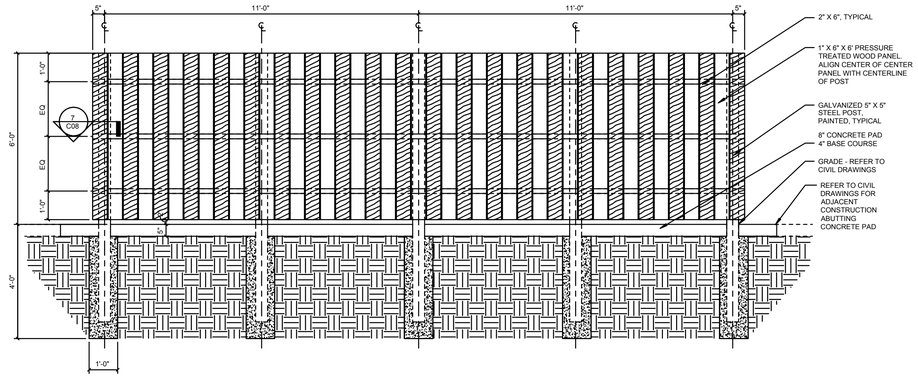
C07



6 TRASH ENCLOSURE PLAN - CORNER DETAIL
3" = 1'-0"



4 TRASH ENCLOSURE - ELEVATION/SECTION
1/2" = 1'-0"



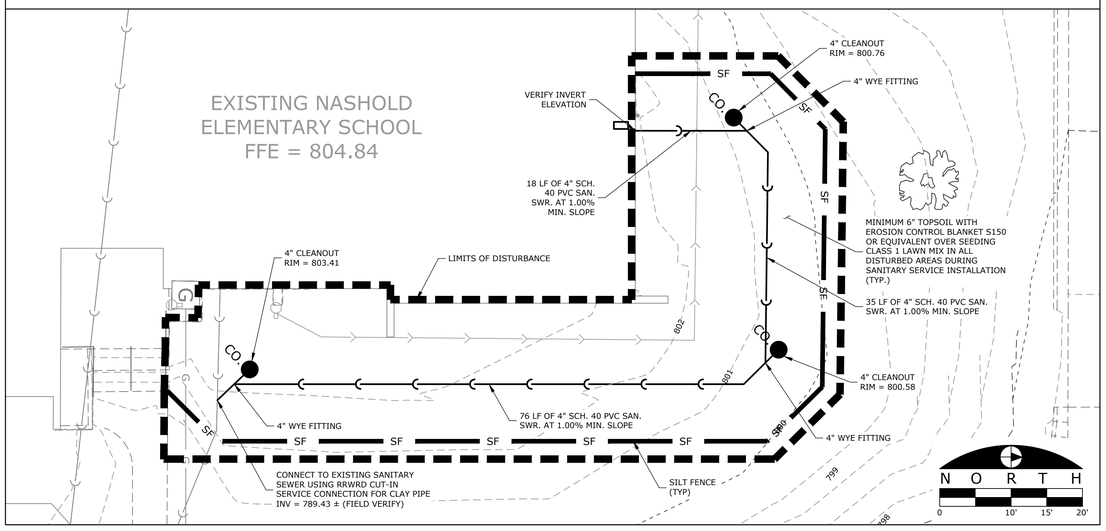
1 TRASH ENCLOSURE - ELEVATION
1/2" = 1'-0"

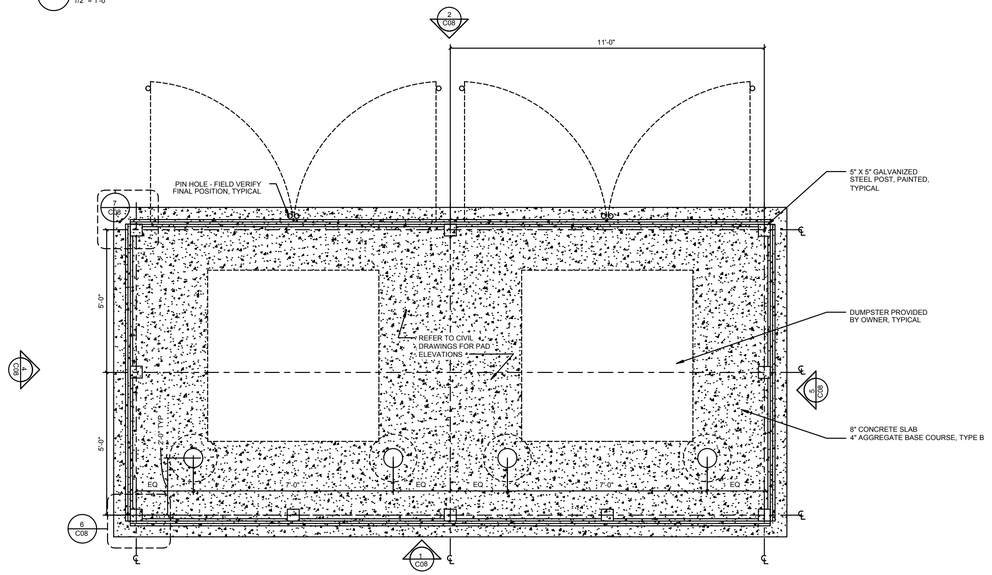
7 TRASH ENCLOSURE PLAN - GATE DETAIL
3" = 1'-0"

5 TRASH ENCLOSURE - ELEVATION/SECTION
1/2" = 1'-0"

2 TRASH ENCLOSURE - ELEVATION
1/2" = 1'-0"

SANITARY SERVICE AT NORTHEAST CORNER OF BUILDING





3 TRASH ENCLOSURE PLAN
1/2" = 1'-0"

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LOVES PARK, IL 61111
VOICE: (815) 484-4300
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ROCKFORD PUBLIC SCHOOLS 205

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SHEET TITLE

DETAILS 2

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PM	JSL

PROJECT NUMBER
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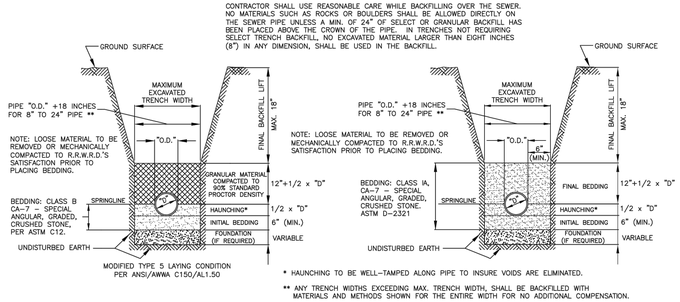
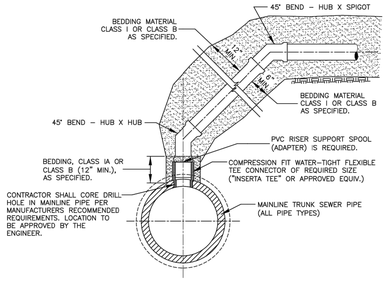
SHEET NUMBER
C08



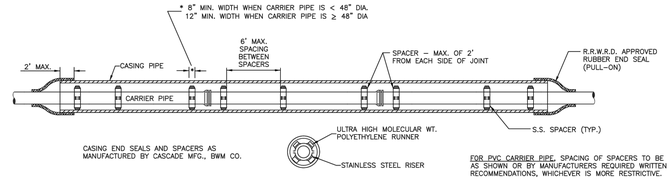
RIGID PIPE BEDDING DETAIL

FLEXIBLE PIPE BEDDING DETAIL



SERVICE CONNECTION DETAIL

FOR CONNECTION TO 18" DIA. OR LARGER PIPE

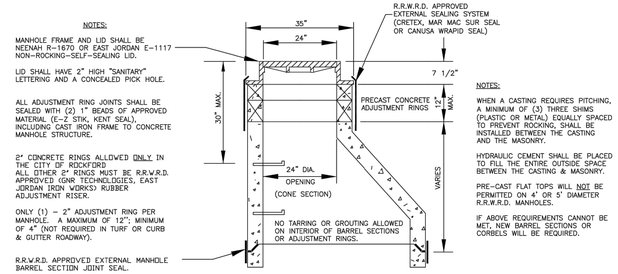


CASING AND SPACER DETAIL

FOR PVC CARRIER PIPE

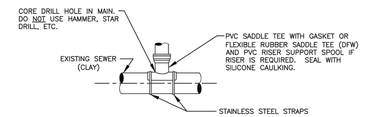
FOR PVC CARRIER PIPE, SPACING OF SPACERS TO BE AS SHOWN OR BY MANUFACTURERS REQUIRED WRITTEN RECOMMENDATIONS, WHICHEVER IS MORE RESTRICTIVE.

FOR NON- PVC CARRIER PIPE, LONGER SPACING SHALL BE ALLOWED IF BY MANUFACTURER'S RECOMMENDATION. OTHER PARTS OF DETAIL STILL APPLY.



SANITARY MANHOLE ADJUSTMENT DETAIL

FOR NEW AND EXISTING



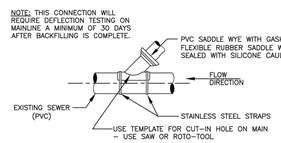
CUT-IN SERVICE CONNECTION DETAIL

(CLAY PIPE)

PROFILE VIEW

SEE STANDARD SERVICE & SERVICE CLEANOUT RISER DETAIL

NOTE: THIS CONNECTION WILL REQUIRE DEFLECTION TESTING ON MAINLINE A MINIMUM OF 30 DAYS AFTER BACKFILLING IS COMPLETE.

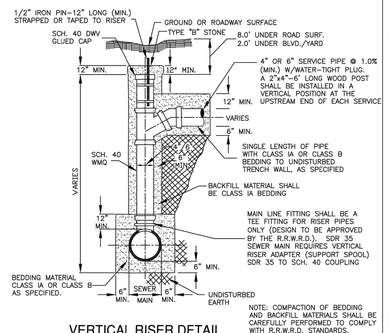


CUT-IN SERVICE CONNECTION DETAIL

(PVC PIPE)

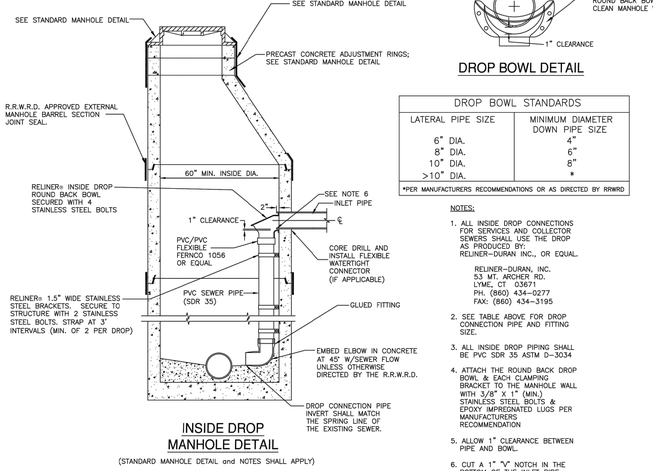
PLAN VIEW

SEE STANDARD SERVICE & SERVICE CLEANOUT RISER DETAIL



VERTICAL RISER DETAIL

NOTE: COMPACTION OF BEDDING AND BACKFILL MATERIALS SHALL BE CAREFULLY PERFORMED TO COMPLY WITH R.R.W.R.D. STANDARDS.



INSIDE DROP

MANHOLE DETAIL

(STANDARD MANHOLE DETAIL and NOTES SHALL APPLY)

DROP BOWL DETAIL

DROP BOWL STANDARDS	
LATERAL PIPE SIZE	MINIMUM DIAMETER DOWN PIPE SIZE
6" DIA.	4"
8" DIA.	6"
10" DIA.	8"
>10" DIA.	*

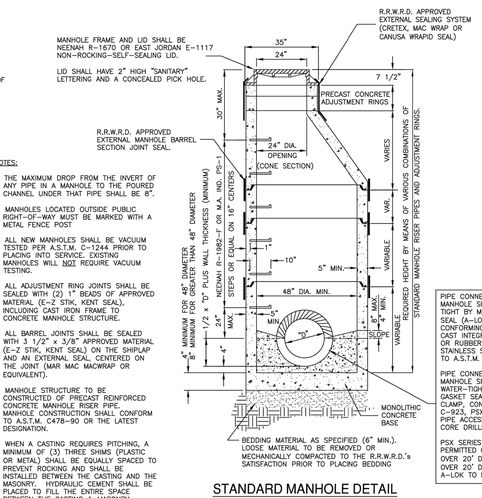
*PER MANUFACTURERS RECOMMENDATIONS OR AS DIRECTED BY RRWRD

NOTES:

1. ALL INSIDE DROP CONNECTIONS FOR SERVICES AND COLLECTOR SEWERS SHALL USE THE DROP AS PRODUCED BY: RELINER-DURAN INC., OR EQUAL.

   RELINER-DURAN, INC.
   53 MT. ARCHER RD.
   LYME, CT 03671
   PH. (860) 434-0277
   FAX: (860) 434-3195

2. SEE TABLE ABOVE FOR DROP CONNECTION PIPE AND FITTING SIZE.
3. ALL INSIDE DROP PIPING SHALL BE PVC SDR 35 ASTM D-3034
4. ATTACH THE ROUND BACK DROP BOWL & EACH CLAMPING BRACKET TO THE MANHOLE WALL WITH 3/8" X 1" (MIN.) STAINLESS STEEL BOLTS & EPOXY IMPREGNATED LUGS PER MANUFACTURERS RECOMMENDATION
5. ALLOW 1" CLEARANCE BETWEEN PIPE AND BOWL.
6. CUT A 1" "V" NOTCH IN THE BOTTOM OF THE INLET PIPE.



STANDARD MANHOLE DETAIL

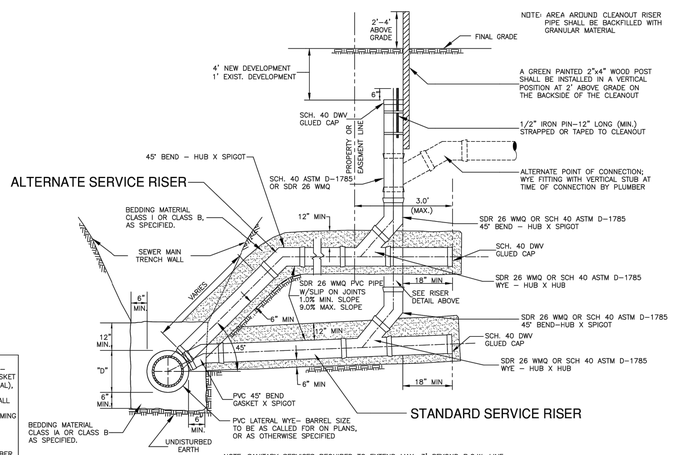
NOTES:

1. THE MAXIMUM DROP FROM THE INVERT OF ANY PIPE IN A MANHOLE TO THE POURED CHANNEL UNDER THAT PIPE SHALL BE 8".
2. MANHOLES LOCATED OUTSIDE PUBLIC RIGHT-OF-WAY MUST BE MARKED WITH A METAL FENCE POST
3. ALL NEW MANHOLES SHALL BE VACUUM TESTED PER A.S.T.M. C-1244 PRIOR TO PLACING INTO SERVICE. EXISTING MANHOLES WILL NOT REQUIRE VACUUM TESTING.
4. ALL ADJUSTMENT RING JOINTS SHALL BE SEALED WITH (2) 1" BEADS OF APPROVED MATERIAL (E-Z STIK, KENT SEAL), INCLUDING CAST IRON FRAME TO CONCRETE MANHOLE STRUCTURE.
5. ALL BARREL JOINTS SHALL BE SEALED WITH 3 1/2" x 3/8" APPROVED MATERIAL (E-Z STIK, KENT SEAL) ON THE SHIPLAP AND AN EXTERNAL SEAL, CENTERED ON THE JOINT (MAR MAC MACWRAP OR EQUIVALENT).
6. MANHOLE STRUCTURE TO BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE MANHOLE RISER PIPE. MANHOLE CONSTRUCTION SHALL CONFORM TO A.S.T.M. C478-90 OR THE LATEST DESIGNATION.
7. WHEN A CASTING REQUIRES PITCHING, A MINIMUM OF (3) THREE SHIMS (PLASTIC OR METAL) SHALL BE EQUALLY SPACED TO PREVENT ROCKING AND SHALL BE INSTALLED BETWEEN THE CASTING AND THE MASONRY. HYDRAULIC CEMENT SHALL BE PLACED TO FILL THE ENTIRE SPACE BETWEEN THE CASTING & MASONRY.
8. PRE-CAST FLAT TOPS WILL NOT BE PERMITTED ON R.R.W.R.D. MANHOLES.

PIPE CONNECTION TO PROPOSED MANHOLE SHALL BE MADE WATER-TIGHT BY MEANS OF RUBBER GASKET SEAL AND STAINLESS STEEL CLAMP, CONFORMING TO A.S.T.M. F-477, CAST INTEGRALLY IN MANHOLE WALL OR RUBBER GASKET SEAL AND STAINLESS STEEL CLAMP CONFORMING TO A.S.T.M. C-923.

PIPE CONNECTION TO EXISTING MANHOLE SHALL BE MADE WATER-TIGHT BY MEANS OF RUBBER GASKET SEAL AND STAINLESS STEEL CLAMP, CONFORMING TO A.S.T.M. C-923, PSX SERIES SIX OR EQUAL. PIPE ACCESS SHALL BE MADE BY CORE DRILLING MANHOLE WALL.

PSX SERIES GASKETS ARE NOT PERMITTED ON MANHOLE OPENINGS OVER 20' DEEP. MANHOLE OPENINGS OVER 20' DEEP SHALL REQUIRE AN A-LOK TO MANHOLE GASKET.



NOTE: SANITARY SERVICES REQUIRED TO EXTEND MAX. 3' BEYOND R.O.W. LINE

ALL SCHEDULE 40 PVC PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF A.S.T.M. D-1785/D-2665. ALL WMQ SDR 26 PVC PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF A.S.T.M. D-2241 AND D-3139. ALL DWV FITTINGS SHALL BE CLEANED, PRIMED AND GLUED.

STANDARD SERVICE & ALTERNATE SERVICE RISER DETAIL

WITH SERVICE CLEANOUT RISER DETAIL

ROCK RIVER WATER RECLAMATION DISTRICT
STANDARD DETAIL SHEET

3501 KISHWAUKEE ST., P.O. BOX 7480, ROCKFORD, ILLINOIS 61109-7480 - PH. (815) 387-7660/FAX (815) 387-7665

REV. 08/11/2015

ARC DESIGN RESOURCES INC.
5291 ZENITH PARKWAY
LOVES PARK, IL 61111
VOICE: (815) 484-4300
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PROJECT NAME
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NASHOLD SCHOOL PARENT PARKING AND DROP OFF

3303 20TH STREET, ROCKFORD, IL 61109

ROCKFORD PUBLIC SCHOOLS 205

CONSULTANTS

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SHEET TITLE

RRWRD DETAILS

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PM	JSL

PROJECT NUMBER
SHEET NUMBER

17044

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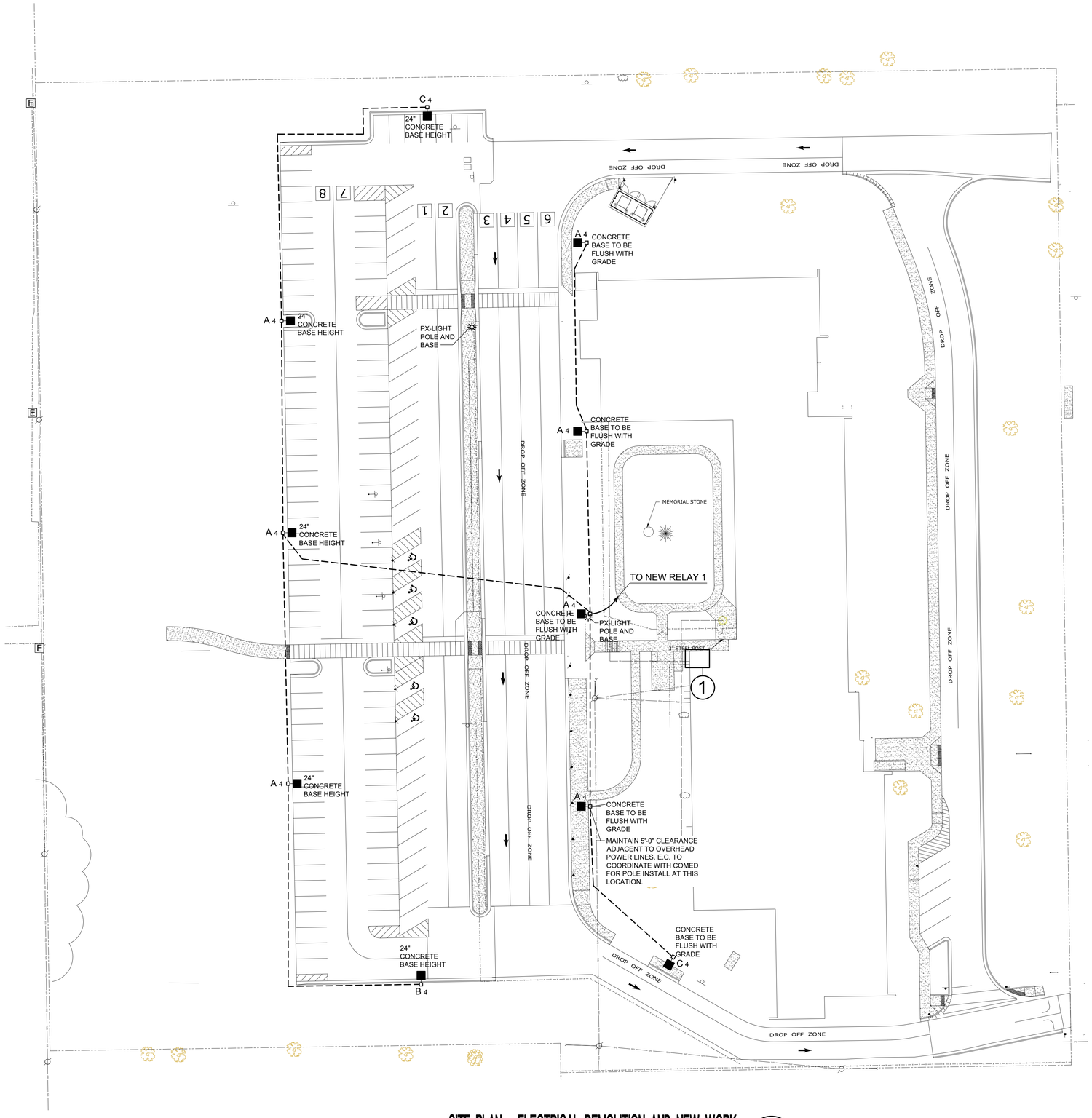


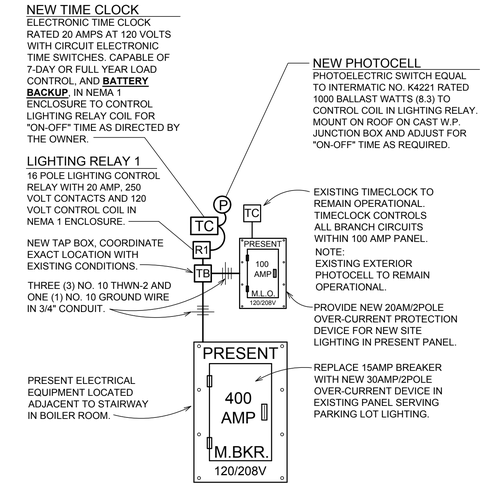
SITE PLAN - ELECTRICAL DEMOLITION AND NEW WORK

SCALE: 1" = 30'-0"

N

LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	LAMP SIZE AND TYPE	MOUNTING	MANUFACTURER'S NUMBER	REMARKS
A	67 CRI L.E.D., 4000K 22,248 LUMENS 1000mA DRIVER	20'-0" POLE ON CONCRETE BASE (SEE PLAN/ DETAIL)	LITHONIA NO. CSX1-LED-60C-1000-40K-T4M-SPA-*DDBTXD- POLE: SSS-20-4C-*DDBTXD	20'-0" POLE WITH ONE (1) LED LIGHT FIXTURE WITH T4M OPTICS, MULTI-VOLT DRIVER, AND HOUSING WITH TEXTURED DARK BRONZE FINISH. (*=VERIFY FINISH WITH THE DISTRICT PRIOR TO ORDERING. (FIXTURE WATTAGE = 209 WATTS)
B	67 CRI L.E.D., 4000K 22,248 LUMENS 1000mA DRIVER	20'-0" POLE ON CONCRETE BASE (SEE PLAN/ DETAIL)	LITHONIA NO. CSX1-LED-60C-1000-40K-T4M-HS-SPA-*DDBTXD- POLE: SSS-20-4C-*DDBTXD	20'-0" POLE WITH ONE (1) LED LIGHT FIXTURE WITH T4M OPTICS, HOUSE SHIELD, MULTI-VOLT DRIVER, AND HOUSING WITH TEXTURED DARK BRONZE FINISH. (*=VERIFY FINISH WITH THE DISTRICT PRIOR TO ORDERING. (FIXTURE WATTAGE = 209 WATTS)
C	67 CRI L.E.D., 4000K 22,279 LUMENS 1000mA DRIVER	20'-0" POLE ON CONCRETE BASE (SEE PLAN/ DETAIL)	LITHONIA NO. CSX1-LED-60C-1000-40K-T3M-HS-SPA-*DDBTXD- POLE: SSS-20-4C-*DDBTXD	20'-0" POLE WITH ONE (1) LED LIGHT FIXTURE WITH T3M OPTICS, HOUSE SHIELD, MULTI-VOLT DRIVER, AND HOUSING WITH TEXTURED DARK BRONZE FINISH. (*=VERIFY FINISH WITH THE DISTRICT PRIOR TO ORDERING. (FIXTURE WATTAGE = 209 WATTS)
NOTES:	PROVIDE UL APPROVED LUMINAIRE DISCONNECT FOR EACH LIGHT FIXTURE PER NEC REQUIREMENTS EFFECTIVE JANUARY 1, 2008. E.C. TO COMPLY AS REQUIRED. THE FIXTURE SCHEDULE DOES NOT NECESSARILY LIST ALL ACCESSORIES AND HARDWARE NECESSARY FOR THE COMPLETION OF INSTALLATION, NOR DOES IT DETAIL THE CEILING CONSTRUCTION TO BE ENCOUNTERED FOR THIS PROJECT. IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO PROPERLY DETERMINE AND PROVIDE THE CORRECT COMPONENTS, ACCESSORIES AND HARDWARE AS REQUIRED FOR THE INSTALLATION. ALL ADDITIONAL HARDWARE FOR MOUNTING FIXTURES SHALL BE PROVIDED AT NO EXTRA COST.			

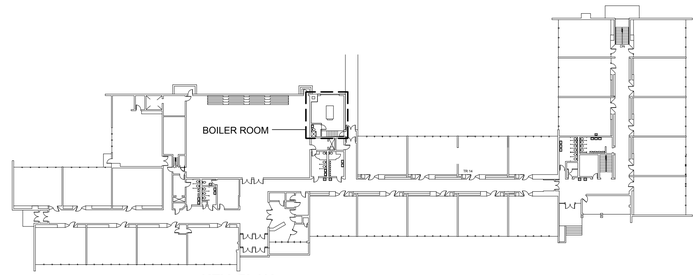


EXTERIOR LIGHTING CONTROL AND EXISTING ELECTRICAL DISTRIBUTION DETAIL

NO SCALE

SITE LIGHTNG NOTES

THE ELECTRICAL CONTRACTOR SHALL COORDINATE ANY SPECIAL SITE FIXTURE REQUIREMENTS AND REGULATIONS REQUIRED BY THE LOCAL AUTHORITY. (i.e. FIXTURE/POLE COLOR AND LENS TYPE). **VERIFY PRIOR TO ORDERING EXTERIOR LIGHT FIXTURES INDICATED ON THIS PLAN.**



1 KEY PLAN
NO SCALE

N

THE ENGINEER IS NOT PROVIDING PROJECT CONSTRUCTION SUPERVISION OR ANY FORM OF PROJECT MANAGEMENT FOR THE BUILDING COVERED BY THIS SET OF DOCUMENTS. THE USE OF THESE DRAWINGS BY ANY CONTRACTOR, SUB- CONTRACTOR, BUILDER'S TRADESMEN OR WORKER SHALL INSTIGATE A HOLD HARMLESS AGREEMENT BETWEEN THE DRAWING USER AND THE ENGINEER.
THE USER OF THE DRAWINGS AGREES TO HOLD THE ENGINEER HARMLESS FOR ANY RESPONSIBILITY REGARDING CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES AND FOR ANY SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK AND FURTHER SHALL HOLD THE ENGINEER HARMLESS FOR COST AND PROBLEMS ARISING FROM THE NEGLIGENCE OF THE CONTRACTOR, SUB-CONTRACTOR, TRADESMEN OR WORKMEN.

NEW PARENT PARKING AND DROP OFF FOR:

NASHOLD ELEMENTARY SCHOOL RPS #205

3303 20TH STREET
ROCKFORD IL, ILLINOIS

REVISIONS:

CHECKED BY: SDSE
DRAWN BY: SDS
DATE: 5/17/2017

ELECTRICAL SITE PLAN, DETAILS & SCHEDULE

PROJECT #: SDSE 17-013

SHEET NUMBER: SE101 of 3

SYSTEMS DESIGN SERVICE ENGINEERING
3600 EAST STATE STREET•SUITE 215•ROCKFORD, ILLINOIS•61108
PHONE (815) 399-3381 FAX (815) 399-3383 WWW.SDSEGROUP.COM
IL PROF DESIGN FIRM #184.004999

ELECTRICAL SYMBOLS

F1ⓐ#a	RECESSED CEILING FIXTURE ( ) =WALL WASHER)
●	SURFACE OR PENDANT CEILING FIXTURE
●H	BRACKET FIXTURE
	RECESSED FLUORESCENT FIXTURE
	SURFACE OR PENDANT FLUORESCENT FIXTURE
	WALL FLUORESCENT FIXTURE (VERIFY HEIGHT)
	BRACKET EXIT LIGHT → DIRECTIONAL ARROW
	CEILING EXIT LIGHT → DIRECTIONAL ARROW
	LIGHT TRACK
	EXTERIOR POLE FIXTURE
●	BOLLARD FIXTURE
E	BATTERY EMERGENCY FIXTURE (R=REMOTE HEAD)
	SINGLE POLE SWITCH
3	THREE WAY SWITCH
4	FOUR WAY SWITCH
P	SWITCH WITH PILOT LIGHT
K	KEY OPERATED SWITCH
OS	OCCUPANCY SENSOR SWITCH (EQUAL TO LEVITON DECORA INFRARED ODS15-ID,UNO)
	DIMMER CONTROL SWITCH
	SWITCH WITH GROUNDED DUPLEX RECEPTACLE
	REMOTE CONTROL SWITCH
	GROUNDED DUPLEX RECEPTACLE
	GROUNDED SINGLE RECEPTACLE
	SPECIAL GROUNDED RECEPTACLE, SIZE AND TYPE AS SPECIFIED
	GROUNDED FLUSH FLOOR RECEPTACLE
WM	PLUGMOLD (VERIFY TYPE AND MOUNTING)
P D T	POWER, DATA AND TELEPHONE FLUSH FLOOR BOX WITH COVER. PROVIDE EMPTY CONDUIT FOR DATA/TELEPHONE TO ABOVE SUSPENDED CEILING AS REQUIRED. SEE LOW VOLTAGE CONDUIT SIZING TABLE. (VERIFY)
⊠	OUTLET WITH FINAL CONNECTIONS TO EQUIPMENT. EQUIPMENT FURNISHED BY OTHERS (FBO). PROVIDE NECESSARY RECEPTACLE, SAFETY SWITCH, WIRING ETC. FOR COMPLETE INSTALLATION VERIFY EXACT LOCATION AND HEIGHT BEFORE ROUGH-IN.
J	CEILING JUNCTION BOX → WITH FLUSH COVER
H	WALL JUNCTION BOX → WITH FLUSH COVER
F J	SAFETY SWITCH (F=FUSED)
	SURFACE ELECTRICAL PANELBOARD
	RECESSED ELECTRICAL PANELBOARD
M	MOTOR STARTER (VFD=VARIBLE FREQUENCY DRIVE)
R	CONTROL RELAY (LETTER=FLOOR, NUMBER=NO. OF RELAY)
T	TRANSFORMER
	CONDUIT RUN CONCEALED (OR PARTIALLY CONCEALED) IN CEILINGS OR WALLS
	CONDUIT RUN CONCEALED IN OR UNDER FLOORS
X	CONDUIT RUN EXPOSED, IN STRAIGHT LINES
U	CONDUIT RUN UNDERGROUND
E	EMERGENCY WIRING, IN CONDUIT, CONCEALED
	HOMERUN TO PANEL, IN CONDUIT, CONCEALED ARROWS INDICATE NUMBER OF CIRCUITS → CHARACTER MARKS= NUMBER OF WIRES, IF NONE ARE SHOWN TWO ARE REQUIRED
T	TELEPHONE CONDUIT RUN ABOVE CEILINGS OR IN WALLS
T	TELEPHONE CONDUIT RUN IN OR UNDER FLOORS → EMPTY CONDUIT, CONCEALED
D	TELEPHONE/DATA OUTLET BOX SEE TELECOMM DETAILS FOR ADDITIONAL REQUIREMENTS. → WITH COVERPLATE AND 1" CONDUIT TO JUNCTION BOX PER SCHEDULE- PULL STRING

NOTES:

ELECTRICAL OUTLET BOXES INSTALLED IN FIRE RATED ASSEMBLIES SHALL COMPLY WITH LATEST IBC, SECTION 712 (NOT LESS THAN 24" O.C.)

ELECTRICAL DEVICES INSTALLED IN ACCORDANCE WITH ADA SPECIFICATIONS. VERIFY HEIGHTS AND SPECIFIC DIMENSIONS.

ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY LIGHTING CONTROLS AS TO COMPLY WITH LOCAL ENERGY CODE REQUIREMENTS. ENERGY MANGAGEMENT PRODUCTS SHALL BE EQUAL TO SENSORSWITCH. E.C. TO DETERMINE IF WALL OR CEILING OCCUPANCY DEVICE TYPE IS REQUIRED BASED ON PROJECT DESIGN AND IDEAL USE OF DEVICE. PROVIDE CONTROL DEVICE WITH SUITABLE FEATURES FOR INSTALLATION LOCATIONS OF THE CONTROL DEVICES REQUIRED FOR ENERGY CODE COMPLIANCE.

ELECTRICAL ABBREVIATIONS

AC	ABOVE COUNTER	GFI	GROUND FAULT INTERRUPTER
AFF	ABOVE FINISHED FLOOR	HP	HORSEPOWER
ASC	ABOVE SUSPENDED CEILING	INC	INCANDESCENT
C	CONDUIT	IWS	IN WALL SPACE
CF	CARPET FLANGE	JB	JUNCTION BOX
CTC	CLOSE TO CEILING	KW	KILOWATTS
CTF	CLOSE TO FLOOR	LTG	LIGHTING
CTW	CLOSE TO WALL	MAX	MAXIMUM
DSB	DIMMER SWITCH BOARD	MFG	MANUFACTURER
E	EMERGENCY	MIN	MINIMUM
EBBC	ELECTRIC BASEBOARD CONVECTOR	MOB	MOTOR OUTLET BOX
		MTD	MOUNTED
EDH	ELECTRIC DUCT HEATER	MV	MERCURY VAPOR
EMC	ELECTRIC MOTORIZED CONVECTOR	NEC	NATIONAL ELECTRICAL CODE
		NL	NIGHT LIGHT
ESUH	ELECTRIC SUSPENDED UNIT HEATER	OS	OCCUPANCY SENSING DEVICE
		PH	PHASE (Ø)
EWC	ELECTRIC WATER COOLER	PNL	PANEL
EWH	ELECTRIC WATER HEATER	SW	SWITCH
FAAP	FIRE ALARM ANNUNCIATOR PANEL	TFA	TO FLOOR ABOVE
FACP	FIRE ALARM CONTROL PANEL	TFB	TO FLOOR BELOW
FBO	FURNISHED BY OTHERS	TTC	TELEPHONE TERMINAL CABINET
FL	FLUORESCENT	UNO	UNLESS NOTED OTHERWISE
FFA	FROM FLOOR ABOVE	V	VOLTS
FFB	FROM FLOOR BELOW	W	WIRE
FLA	FULL LOAD AMPS	WP	WEATHER PROOF

PRESENT EQUIPMENT AND DEMOLITION NOTES

A. FOLLOWING REMOVED PRESENT EQUIPMENT AND MATERIALS WHICH ARE IN GOOD OPERATING CONDITION (OR ARE PLACED IN GOOD CONDITION), SUITABLE, MEET REQUIREMENTS OF THESE SPECIFICATIONS, AND ARE APPROVED IN WRITING BY ENGINEER, OR CALLED FOR MAY BE REUSED (PXN-PN).
1. LIGHTING FIXTURES

B. REMOVED PIPE AND WIRE MUST NOT BE REUSED.

C. ANY OF ABOVE EQUIPMENT WHICH IS NOT REUSED AND FOLLOWING REMOVED PRESENT EQUIPMENT SHALL BECOME PROPERTY OF CONTRACTOR, AND SHALL BE REMOVED FROM PREMISES BY HIM (PX).
1. EQUIPMENT SO DESIGNATED ON DRAWINGS.

D. FOLLOWING PRESENT EQUIPMENT SHALL BE CAREFULLY REMOVED, INTACT, MATCH MARKED, INSOFAR AS IS PRACTICAL, SHALL REMAIN PROPERTY OF OWNER, AND SHALL BE DELIVERED TO OWNER OUTSIDE OF BUILDING WHERE DIRECTED BY THE ENGINEER (PX-DO).
1. EQUIPMENT SO DESIGNATED ON DRAWINGS.

E. CONTRACTOR SHALL:
1. PROVIDE NEW FLOORS UNDER REMOVED PRESENT EQUIPMENT AND WHERE CALLED FOR
2. REPAIR FLOORS UNDER AND WALLS ADJACENT TO REMOVED EQUIPMENT, TO MATCH ADJACENT CONSTRUCTION.
3. FILL IN PRESENT CHASES WHICH ARE NO LONGER REQUIRED AND NEATLY PATCH TO MATCH ADJACENT CONSTRUCTION.
4. CUT OPENINGS REQUIRED FOR:
A. HIS WORK;
B. ADMISSION OF NEW EQUIPMENT;
C. REMOVAL OF PRESENT EQUIPMENT;
D. NEW CONNECTION TO PRESENT CONSTRUCTION.
5. PATCH AND REPAIR UNUSED PRESENT HOLES AND OPENINGS, AND THOSE LEFT BY THE REMOVAL OF PRESENT EQUIPMENT AND ADMISSION OF NEW EQUIPMENT.
6. PATCH AND REPAIR PRESENT EQUIPMENT, AND BUILDING CONSTRUCTION WHICH HAS NOT BEEN CUT, REMOVED, DISTURBED OR MARRED, AS REQUIRED, TO RESTORE IT TO ORIGINAL CONDITION BEFORE BEING DISTURBED.

F. UNUSED OPENINGS IN ENCLOSURES, IN CONDUITS, BOXES, CABINETS, AND PANELS SHALL BE FILLED.

G. PRESENT PAINTED CONSTRUCTION WHICH IS MARRED SHALL BE REPAIRED SAME AS NEW CONSTRUCTION.

H. CERTAIN ABBREVIATIONS OR SYMBOLS, WHEN APPLIED TO PRESENT (TO EXISTING) LINE, DEVICE OR EQUIPMENT, SHALL HAVE THE FOLLOWING MEANINGS.

NC	NEW CONNECTIONS TO PRESENT PIPING, DEVICE WIRING, EQUIPMENT, ETC. INSTALL, TEST, COVER, PAINT, ETC., SAME AS NEW WORK.
P	TO REMAIN UNCHANGED, IF CHANGE CANNOT BE AVOIDED, CHANGE "P" TO "PXR", AT NO INCREASE IN CONTRACT PRICE. VERIFY LOCATION.
PX	TO BE COMPLETELY REMOVED, INCLUDING UNNEEDED CONNECTIONS, PIPING, DUCTS, WIRING, BASES, ETC., OF EVERY KIND. UNUSED OPENINGS PLUGGED OR CAPPED, TESTED, COVERED, PAINTED SAME AS NEW WORK. OTHER DISTURBED WORK OF EVERY KIND RESTORED, PATCHED, TESTED, COVERED, PAINTED, ETC., TO EQUAL ORIGINAL CONDITION. REMOVED MATERIAL MUST NOT BE REUSED UNLESS OTHERWISE SPECIFIED OR DIRECTED BY ENGINEER.
PX-DO	SAME AS "PX", EXCEPT REMOVED, CLEANED AND RESTORED INTACT, AS FAR AS PRACTICAL, MATCHED MARKED, AND OTHERWISE IDENTIFIED AS REQUIRED AND DELIVERED TO OWNER OUTSIDE OF BUILDING AS DIRECTED BY ENGINEER.
PXR	SAME AS "PX", EXCEPT REMOVED, CLEANED AND RESTORED TO GOOD OPERATING CONDITION AND REINSTALLED, SAME AS NEW WORK, IN ORIGINAL POSITION. IF RECONDITIONING IS IMPRACTICAL, PROVIDE NEW DEVICE, AS APPROVED BY ENGINEER, AT NO INCREASE IN CONTRACT PRICE.
PXN ETC.	SAME AS "PXR" EXCEPT REMOVED, CLEANED AND RESTORED TO GOOD OPERATING CONDITION AND REINSTALLED SAME AS NEW WORK, IN NEW POSITION MARKED "PN". IF RECONDITIONING IS IMPRACTICAL, PROVIDE NEW DEVICE, AS APPROVED BY ENGINEER, AT NO INCREASE IN CONTRACT PRICE.
PN ETC.	COMPLETELY REINSTALL DEVICE, LINE OR EQUIPMENT REMOVED, AT NEW LOCATION, SAME, AS NEW WORK.

I. WORK OF EVERY DIVISION SHALL BE COORDINATED WITH ALL OTHER WORK AND PRESENT CONDITIONS, SO THAT
1. ELECTRICAL SERVICES TO PRESENT BUILDINGS OR PORTIONS OF BUILDING WILL NOT BE INTERRUPTED DURING PERIODS WHEN THOSE SERVICES ARE NEEDED.
2. SPECIAL SYSTEMS SUCH AS FIRE ALARM, SOUND, ETC., OF EVERY KIND TO PRESENT BUILDINGS WILL NOT BE INTERRUPTED DURING WORKING AND/OR OCCUPIED HOURS, EXCEPT AS APPROVED BY ENGINEER.

J. NEW CONDUIT SERVING NEW AND/OR PRESENT ELECTRICAL DEVICES IN FINISHED PRESENT ROOMS OR SPACES SHALL BE CONCEALED IN FINISHED ROOMS, WHERE POSSIBLE OR SHALL BE RUN IN ADJOINING UNFINISHED ROOMS, SHAFTS, CHAMBERS, CLOAK ROOMS, ETC., WHERE EXPOSED CONDUIT IS PERMITTED IN FINISHED PRESENT ROOMS BY ARCHITECT IN WRITING, IT SHALL BE WIREMOLD, WITH MATCHING BOXES, RUN INCONSPICUOUSLY AS POSSIBLE, IN STRAIGHT LINES, PARALLEL TO WALLS AND CEILINGS, WITH NEAT BENDS, UNNEEDED BOXES, SWITCHES AND WIRING SHALL BE COMPLETELY REMOVED AND OPENINGS PATCHED. IN PRESENT ROOMS OR LOCATIONS WHERE NEW LIGHTING EQUIPMENT IS SHOWN. PRESENT FIXTURES, BOXES, WIRING, SWITCHES, ETC. SHALL BE REMOVED AS PER NOTE "PX" UNLESS ANOTHER SYMBOL IS SHOWN ON DRAWINGS. WHERE SPECIFICALLY APPROVED BY ARCHITECT IN WRITING, BOXES MAY BE PERMITTED TO REMAIN AND BE PROVIDED WITH NEAT FLUSH COVERS, EXTENDING OVER ENTIRE WALL OPENING.

K. UNNEEDED ELECTRICAL FIXTURES, SWITCHES, STARTERS, DEVICES, ETC., SHALL BE COMPLETELY REMOVED; AND CONSTRUCTION PATCHED AS PER NOTE "PX" NEW CONNECTIONS TO PRESENT EQUIPMENT, SHALL BE MADE, TESTED, COVERED, PAINTED, ETC., SAME AS NEW EQUIPMENT. PRESENT EQUIPMENT, AND OTHER COVERING DISTURBED BY CONTRACTOR SHALL BE REPAIRED TO EQUAL NEW CONDITION AND PAINTED SAME AS NEW COVERING.

L. WHERE DEVICES ARE OMITTED FROM PRESENT BRANCH CIRCUITS, THE REMAINING DEVICES, ON THE SAME CIRCUIT AND/OR CONDUIT RUN, SHALL BE REWIRED, IF NEEDED AND AS REQUIRED, TO REMAIN ON THEIR RESPECTIVE CIRCUITS AND IN OPERATING CONDITION.

M. LIGHTING FIXTURES WHICH ARE REUSED SHALL HAVE LENS AND REFLECTORS CLEANED. ALL FIXTURES SHALL BE PROVIDED WITH NEW LAMPS.

N. WORK SHALL BE COORDINATED SO THAT HEATING, PLUMBING, ELECTRICAL, AND TELEPHONE SERVICES TO THE PRESENT BUILDING WILL NOT BE INTERRUPTED, EXCEPT AS APPROVED BY THE ARCHITECT.

GENERAL NOTES APPLY TO ALL SHEETS:

SEE DETAILS AND SCHEDULES ON DRAWINGS AND SPECIFICATIONS FOR MEANING OF ABBREVIATIONS AND ADDITIONAL REQUIREMENTS AND INFORMATION. CHECK ARCHITECTURAL, STRUCTURAL, AND OTHER MECHANICAL AND ELECTRICAL DRAWINGS FOR SCALE, SPACE LIMITATIONS, BEAMS, DOOR SWINGS, WINDOWS, COORDINATION, ADDITIONAL INFORMATION, ETC. AND REPORT ANY DESCREPANCIES, CONFLICTS, ETC. TO ARCHITECT PRIOR TO SUBMITTING BID.

ALL EQUIPMENT FURNISHED BY OTHERS (FBO) SHALL BE PROVIDED WITH PROPER MOTOR STARTERS, DISCONNECTS, CONTROLS, ETC. BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE. THE ELECTRICAL CONTRACTOR SHALL INSTALL AND COMPLETELY WIRE ALL ASSOCIATED EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S WIRING DIAGRAMS AND AS REQUIRED FOR A COMPLETE OPERATING INSTALLATION. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF (FBO) EQUIPMENT PRIOR TO ROUGH-IN OF CONDUIT AND WIRING TO AVOID CONFLICTS.

CONTRACTOR SHALL VERIFY FINAL LOCATIONS AND CEILING TYPES FOR ALL ELECTRICAL EQUIPMENT WITH ARCHITECTURAL REFLECTED CEILING PLAN AND ALL TRADES BEFORE ORDERING OR ROUGH-IN OF EQUIPMENT TO AVOID CONFLICTS.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING, INCLUDING CORE DRILLING, SAW CUTTING, ETC., AS REQUIRED TO ACCOMMODATE HIS WORK. CUTTING AND PATCHING AND PAYMENT OF SAID WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR REQUIRING THE DISTURBANCE BUT SAME SHALL BE DONE BY A GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE APPROPRIATE ELECTRICAL CONTRACTOR TO GIVE QUANTITIES OF PATCHING REQUIREMENTS TO A GENERAL CONTRACTOR.

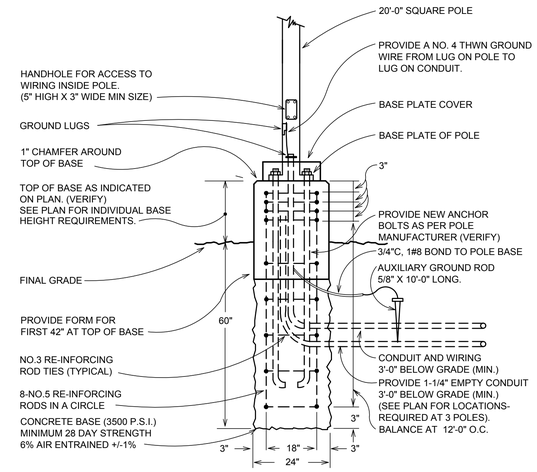
CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF PRESENT CEILINGS, LIGHT FIXTURES, DIFFUSERS, DUCTWORK, PIPING, CONDUIT, ETC., AS REQUIRED FOR THE INSTALLATION OF HIS WORK. REMOVAL, REPLACEMENT AND PAYMENT FOR MECHANICAL/PLUMBING ITEMS SHALL BE THE RESPONSIBILITY OF THE APPLICABLE ELECTRICAL CONTRACTOR. REMOVAL AND REPLACEMENT OF PRESENT CEILINGS, ETC., SHALL BE THE RESPONSIBILITY OF CONTRACTOR MAKING THE DISTURBANCE BUT SAME SHALL BE DONE BY A GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE APPROPRIATE ELECTRICAL CONTRACTOR TO GIVE QUANTITIES OF REMOVAL/REPLACEMENT REQUIREMENTS TO A GENERAL CONTRACTOR.

ELECTRICAL COORDINATION NOTE

THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS ASSOCIATED WITH ALL OTHER TRADES THAT INVOLVE THE ELECTRICAL CONTRACTOR TO PROVIDE POWER WIRING FOR DEVICES AND SYSTEMS PROVIDED BY OTHER TRADES. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ASPECTS OF WORK RELATED TO THESE SYSTEMS AND DEVICES PRIOR TO SUBMITTING FINAL BID. INCLUDE ALL NECESSARY LABOR AND MATERIALS ASSOCIATED WITH OTHER TRADES AS REQUIRED FOR COMPLETE OPERATIONAL SYSTEMS THAT REQUIRE THE ELECTRICAL CONTRACTOR TO WIRE.

GENERAL DEMOLITION NOTE:

FOR ALL WALLS, CEILINGS, FLOORS, ETC. REQUIRED FOR CONSTRUCTION DEMOLITION WORK OR NEW CONSTRUCTION WORK, INCLUDING, BUT NOT LIMITED TO ITEMS SHOWN: REMOVE (PX) AND/OR REMOVE AND RELOCATE (PXN-PN) ALL ELECTRICAL EQUIPMENT, DEVICES, BOXES, CONDUIT, WIRING, ETC., AS REQUIRED, FOR DEMOLITION OF PRESENT CONSTRUCTION AND TO AVOID INTERFERENCE WITH NEW CONSTRUCTION. (VERIFY BEFORE BIDDING TO INCLUDE ALL NECESSARY MATERIALS AND LABOR)



DETAIL OF CONCRETE BASE FOR POLE FIXTURES

NO SCALE

NEW PARENT PARKING AND DROP OFF FOR:

RPS #205

NASHOLD ELEMENTARY SCHOOL

3303 20TH STREET

ROCKFORD IL, ILLINOIS

REVISIONS:

CHECKED BY: SDSE

DRAWN BY: SDS

DATE: 5/17/2017

ELECTRICAL NOTES & DETAILS

PROJECT #: SDSE 17-013

SHEET NUMBER: SE102 of 3

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DIVISION 26 ELECTRICAL SPECIFICATIONS

SECTION 262000 INTERIOR DISTRIBUTION SYSTEM

PART 1 GENERAL

THE SUPPLEMENTARY GENERAL CONDITIONS ALONG WITH THESE SPECIFICATIONS AND THE ACCOMPANYING DRAWINGS GOVERN WORK UNDER THIS SECTION. IT IS THE INTENT OF THE CONTRACT DOCUMENTS TO PROVIDE FOR A COMPLETE OPERATING SYSTEM. THE OMISSION OF REFERENCE TO MINOR SYSTEM COMPONENTS WHICH ARE REASONABLY REQUIRED FOR THE PROPER FUNCTIONING AND/OR SAFE OPERATION OF THE SYSTEM SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING SAME AT NO ADDITIONAL COST TO THE OWNER. IT IS THE FURTHER INTENT THAT THE SYSTEM SHALL BE TURNED OVER TO THE OWNER IN A FUNCTIONAL AND OPERATING CONDITION. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE ELECTRICAL SYSTEM INCLUDING, BUT NOT LIMITED TO, SERVICE, LIGHTING, POWER, DEVICES, PANELS, CIRCUIT BREAKERS, CONDUIT AND WIRING. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND PAY FOR TEMPORARY AND NEW SERVICE. (VERIFY BEFORE BIDDING TO INCLUDE ALL WORK AS REQUIRED). THE WORK SHALL BE IN ACCORDANCE WITH THE REFERENCES LISTED BELOW AND ALL LOCAL CODES, LAWS, ORDINANCES AND STATE REGULATIONS WHICH GOVERN THE INSTALLATION.

1.1 REFERENCES

THE PUBLICATIONS LISTED BELOW FORM A PART OF THIS SPECIFICATION TO THE EXTENT REFERENCED. THE PUBLICATIONS ARE REFERRED TO WITHIN THE TEXT BY THE BASIC DESIGNATION ONLY.

ASTM D 709	(2001; R 2007) LAMINATED THERMOSETTING MATERIALS
EIA 480	(1981) TOGGLE SWITCHES
IEEE STDS DICTIONARY	(2009) IEEE STANDARDS DICTIONARY: GLOSSARY OF TERMS & DEFINITIONS
ICC/ANSI A117.1	(2009) ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
ICC	(2012) INTERNATIONAL ENERGY CONSERVATION CODE
ANSI Z535.1	(2006) AMERICAN NATIONAL STANDARD FOR SAFETY--COLOR CODE
ANSI/NEMA FB 1	(2007; AMD 2010) STANDARD FOR FITTINGS, CAST METAL BOXES, AND CONDUIT BODIES FOR CONDUIT, ELECTRICAL METALLIC TUBING, AND CABLE
ANSI/NEMA OS 1	(2008; AMD 2010) SHEET-STEEL OUTLET BOXES, DEVICE BOXES, COVERS, AND BOX SUPPORTS
ANSI/NEMA OS 2	(2008; AMD 2010) NONMETALLIC OUTLET BOXES, DEVICE BOXES, COVERS, AND BOX SUPPORTS
NEMA 250	(2008) ENCLOSURES FOR ELECTRICAL EQUIPMENT (1000 VOLTS MAXIMUM)
NEMA KS 1	(2001; R 2006) ENCLOSED AND MISCELLANEOUS DISTRIBUTION EQUIPMENT SWITCHES (600 V MAXIMUM)
NEMA PB 1	(2006; ERRATA 2008) PANELBOARDS
NEMA RN 1	(2005) POLYVINYL-CHLORIDE (PVC) EXTERNALLY COATED GALVANIZED RIGID STEEL CONDUIT AND INTERMEDIATE METAL CONDUIT
NEMA TC 2	(2003) STANDARD FOR ELECTRICAL POLYVINYL CHLORIDE (PVC) CONDUIT
NEMA TC 3	(2004) STANDARD FOR POLYVINYL CHLORIDE (PVC) FITTINGS FOR USE WITH RIGID PVC CONDUIT AND TUBING
NEMA WD 1	(1999; R 2005; R 2010) STANDARD FOR GENERAL COLOR REQUIREMENTS FOR WIRING DEVICES
NEMA WD 6	(2002; R 2008) WIRING DEVICES DIMENSIONS SPECIFICATIONS
NFPA 70	(2008; TIA 11-1; ERRATA 2008) NATIONAL ELECTRICAL CODE
UL 1	(2005; REPRINT JUL 2007) STANDARD FOR FLEXIBLE METAL CONDUIT
UL 1242	(2006; REPRINT JUL 2007) STANDARD FOR ELECTRICAL INTERMEDIATE METAL CONDUIT -- STEEL
UL 489	(2009; REPRINT JUN 2011) MOLDED-CASE CIRCUIT BREAKERS, MOLDED-CASE SWITCHES, AND CIRCUIT-BREAKER ENCLOSURES
UL 6	(2007; REPRINT NOV 2010) ELECTRICAL RIGID METAL CONDUIT-STEEL
UL 797	(2007) ELECTRICAL METALLIC TUBING -- STEEL
UL 870	(2008) STANDARD FOR WIREWAYS, AUXILIARY GUTTERS, AND ASSOCIATED FITTINGS

1.2 DEFINITIONS

A. UNLESS OTHERWISE SPECIFIED OR INDICATED, ELECTRICAL AND ELECTRONICS TERMS USED IN THESE SPECIFICATIONS, AND ON THE DRAWINGS, SHALL BE AS DEFINED IN IEEE STDS DICTIONARY.

B. THE TECHNICAL SECTIONS REFERRED TO HEREIN ARE THOSE SPECIFICATION SECTIONS THAT DESCRIBE PRODUCTS, INSTALLATION PROCEDURES, AND EQUIPMENT OPERATIONS AND THAT REFER TO THIS SECTION FOR DETAILED DESCRIPTION OF SUBMITTAL TYPES.

C. VERTICAL ASSEMBLY: A VERTICAL ASSEMBLY IS A POLE, TOWER OR OTHER SUCH SUPPORT, MOUNTING HARDWARE, ARMS, BRACKETS AND THE LOAD. LOAD CAN BE A LUMINAIRE, SIREN, LOUDSPEAKER OR OTHER DEVICE. ALL COMPONENTS OF A VERTICAL ASSEMBLY WILL BE RATED BY THE MANUFACTURER TO WITHSTAND 135 MPH WIND LOADING.

1.3 SUBMITTALS

SUBMIT THE FOLLOWING IN ACCORDANCE WITH SECTION SUBMITTAL PROCEDURES:
PRECONSTRUCTION SUBMITTALS (SHOP DRAWINGS): SUBMIT PRODUCT DATA FOR THE FOLLOWING: CONDUITS, RACEWAYS AND FITTINGS, WIRE AND CABLE, SPLICES AND CONNECTORS, SWITCHES, RECEPTACLES, OUTLETS, OUTLET BOXES, AND PULL BOXES, CIRCUIT BREAKERS, PANELBOARDS, LAMPS AND LIGHTING FIXTURES, AND DRY-TYPE DISTRIBUTION TRANSFORMERS. COORDINATE COLOR OF DEVICES AND COVERPLATES WITH ARCHITECT/OWNER PRIOR SUBMITTING SHOP DRAWING SUBMITTALS FOR APPROVAL. CLOSEOUT SUBMITTALS (O&M INSTRUCTIONS): SUBMIT TEST REPORTS FOR THE FOLLOWING: FIRE ALARM TEST, LOW VOLTAGE CABLE TEST, CONTINUITY TEST, PHASE-ROTATION TESTS, INSULATION RESISTANCE TEST, SUBMIT MANUFACTURER'S INSTRUCTIONS, MANUFACTURER'S START-UP AND CHECK-OUT CHECKLISTS, SUBMIT STATE FIRE ALARM CERTIFICATION, AND PRE-ENERGIZATION CHECKLISTS.

1.4 GENERAL REQUIREMENTS

SUBMIT MATERIAL, EQUIPMENT, AND FIXTURE LISTS FOR THE FOLLOWING ITEMS SHOWING MANUFACTURER'S STYLE OR CATALOG NUMBERS, SPECIFICATION AND DRAWING REFERENCE NUMBERS, WARRANTY INFORMATION, AND FABRICATION SITE.
SUBMIT MANUFACTURER'S INSTRUCTIONS INCLUDING SPECIAL PROVISIONS REQUIRED TO INSTALL EQUIPMENT COMPONENTS AND SYSTEM PACKAGES. SPECIAL NOTICES SHALL DETAIL IMPEDANCES, HAZARDS AND SAFETY PRECAUTIONS.SUBMIT CERTIFICATION REQUIRED TO INSTALL EQUIPMENT COMPONENTS AND SYSTEM PACKAGES.

1.5 MANUFACTURER'S NAMEPLATE

EACH ITEM OF EQUIPMENT SHALL HAVE A NAMEPLATE BEARING THE MANUFACTURER'S NAME, ADDRESS, MODEL NUMBER, AND SERIAL NUMBER SECURELY AFFIXED IN A CONSPICUOUS PLACE; THE NAMEPLATE OF THE DISTRIBUTING AGENT WILL NOT BE ACCEPTABLE.

1.6 FIELD FABRICATED NAMEPLATES

ASTM D 709. PROVIDE LAMINATED PLASTIC NAMEPLATES FOR EACH EQUIPMENT ENCLOSURE, RELAY, SWITCH, AND DEVICE; AS SPECIFIED IN THE TECHNICAL SECTIONS OR AS INDICATED ON THE DRAWINGS. EACH NAMEPLATE INSCRIPTION SHALL IDENTIFY THE FUNCTION AND, WHEN APPLICABLE, THE POSITION. NAMEPLATES SHALL BE MELAMINE PLASTIC, 0.125 INCH THICK, WHITE WITH BLACK CENTER CORE. SURFACE SHALL BE MATTE FINISH. CORNERS SHALL BE SQUARE. ACCURATELY ALIGN LETTERING AND ENGRAVE INTO THE CORE. MINIMUM SIZE OF NAMEPLATES SHALL BE ONE BY 2.5 INCHES. LETTERING SHALL BE A MINIMUM OF 0.25 INCH HIGH NORMAL BLOCK STYLE.

1.7 WARNING SIGNS

PROVIDE WARNING SIGNS FOR THE ENCLOSURES OF ELECTRICAL EQUIPMENT INCLUDING SUBSTATIONS, PAD-MOUNTED TRANSFORMERS, PAD-MOUNTED SWITCHES, GENERATORS, AND SWITCHGEAR HAVING A NOMINAL RATING EXCEEDING 600 VOLTS.

A. WHEN THE ENCLOSURE INTEGRITY OF SUCH EQUIPMENT IS SPECIFIED TO BE IN ACCORDANCE WITH IEEE C57.12.28 OR IEEE C57.12.29, SUCH AS FOR PAD-MOUNTED TRANSFORMERS, PROVIDE SELF-ADHESIVE WARNING SIGNS ON THE OUTSIDE OF THE HIGH VOLTAGE COMPARTMENT DOOR(S). SIGN SHALL BE A DECAL AND HAVE NOMINAL DIMENSIONS OF 7 BY 10 INCHES WITH THE LEGEND "DANGER HIGH VOLTAGE" PRINTED IN TWO LINES OF NOMINAL 2 INCH HIGH LETTERS. THE WORD "DANGER" SHALL BE IN WHITE LETTERS ON A RED BACKGROUND AND THE WORDS "HIGH VOLTAGE" SHALL BE IN BLACK LETTERS ON A WHITE BACKGROUND. DECAL SHALL BE PANDUIT NO. PPSO710D72 OR APPROVED EQUAL.

1.8 VERIFICATION OF POINTS

BEFORE SUBMITTING THEIR BID, THE CONTRACTOR SHALL VISIT THE SITE AND CONTACT THE CITY AND ALL UTILITIES TO CAREFULLY VERIFY ALL EXPOSED, CONCEALED AND BURIED POINTS OF CONNECTIONS, AS TO LOCATIONS, SIZE, TYPE, DEPTH, OPERATING CHARACTERISTICS ,ETC. INCLUDING BUT NOT LIMITED TO: PRESENT SITE CONDITIONS, PRESENT UTILITY COMPANY ELECTRICAL DISTRIBUTION SYSTEM, WORK ASSOCIATED WITH EQUIPMENT BY OTHERS, NEW CONNECTIONS TO PRESENT EQUIPMENT OR CONSTRUCTION, PRESENT EQUIPMENT TO BE REMOVED AND/OR RELOCATED. IF THE CONTRACTOR FINDS THAT PRESENT POINTS OF CONNECTION ARE INCORRECTLY SPECIFIED, THEY SHALL NOTIFY THE ARCHITECT, IN WRITING, AT LEAST 7 CALENDAR DAYS BEFORE BIDS ARE TO BE SUBMITTED. THE ARCHITECT WILL ISSUE AN ADDENDUM TO ADDRESS THE REVISED POINTS OF CONNECTION. IF THE CONTRACTOR FAILS TO NOTIFY THE ARCHITECT, IN WRITING, AS OUTLINED ABOVE, IT WILL BE ASSUMED THEIR BID INCLUDES EVERYTHING REQUIRED TO PROVIDE CONNECTIONS AS THEY ACTUALLY EXIST, OR AS THEY WILL BE REQUIRED BY THE UTILITY OR AUTHORITY HAVING JURISDICTION WITHOUT INCREASE TO THE CONTRACT PRICE.

1.9 COORDINATION

CERTAIN MOTORS, EQUIPMENT, CONTROLS, ETC ARE PROVIDED BY THE HEATING, VENTILATION, PLUMBING AND/OR OTHER CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED MOTOR STARTERS, SAFETY SWITCHES, VARIABLE FREQUENCY DRIVES, CONTROLS, ETC AND COMPLETELY WIRE ALL EQUIPMENT PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND CODES. SEE SPECIFICATIONS AND DRAWINGS FOR ALL OTHER TRADES TO AVOID CONFLICTS OR DUPLICATING WORK TO BE PROVIDED BY OTHERS. (VERIFY PRIOR TO ROUGH-IN).

BEFORE BIDDING, THE CONTRACTOR SHALL CAREFULLY CHECK ALL PLANS AND SPECIFICATIONS FOR EVERY TRADE AND SHALL INCLUDE IN THEIR BID ALL ASSOCIATED LECTRICAL WORK TO BE PROVIDED FOR THE PROJECT. BEFORE ANY WORK IS INSTALLED OR ANY EQUIPMENT IS PURCHASED, THE CONTRACTOR SHALL CAREFULLY CHECK PLANS AND SPECIFICATIONS FOR EVERY TRADE AS WELL AS THE JOB CONDITIONS. ANY LACK OF COORDINATION BETWEEN THE WORK OF THE EC AND THEIR SUBS, SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT. THE ARCHITECT WILL WORK OUT CONFLICTS AND ADJUSTMENTS IN CONTRACT PRICE, IF WARRANTED. CHANGES IN EQUIPMENT SHALL BE INCORPORATED IN THE SHOP DRAWINGS.

IF CONFLICTS ARISE DURING THE CONSTRUCTION PERIOD, THEY SHALL BE REPORTED TO THE ARCHITECT, IN WRITING, AND THEY SHALL BE WORKED OUT BETWEEN THE ARCHITECT, GENERAL CONTRACTOR, AND OTHER ASSOCIATED TRADE AT NO INCREASE TO THE CONTRACT PRICE.

PART 2 PRODUCTS

2.1 MATERIALS

MATERIALS AND EQUIPMENT TO BE PROVIDED SHALL BE NEW, UL LISTED FOR THE REQUIRED LOCATION/USE, AND BEAR THE MANUFACTURER'S NAME, MODEL NUMBER, AND OTHER IDENTIFICATION MARKINGS. THE STANDARD CATALOGED PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE MANUFACTURE OF THE PRODUCTS. MATERIALS AND EQUIPMENT SHALL BE OF THE SAME MANUFACTURER THROUGHOUT THE PROJECT TO PROVIDE A UNIFORM APPEARANCE, OPERATION AND MAINTENANCE.

2.1.1 RIGID STEEL CONDUIT: RIGID STEEL CONDUIT SHALL COMPLY WITH UL 6 AND BE GALVANIZED BY THE HOT-DIP PROCESS. RIGID STEEL CONDUIT SHALL BE POLYVINYLCHLORIDE (PVC) COATED IN ACCORDANCE WITH NEMA RN 1, WHERE UNDERGROUND AND IN CORROSIVE AREAS, OR MUST BE PAINTED WITH BITUMASTIC. FITTINGS FOR RIGID STEEL CONDUIT SHALL BE THREADED. GASKETS SHALL BE SOLID. CONDUIT FITTINGS WITH BLANK COVERS SHALL HAVE GASKETS, EXCEPT IN CLEAN, DRY AREAS OR AT THE LOWEST POINT OF A CONDUIT RUN WHERE DRAINAGE IS REQUIRED. COVERS SHALL HAVE CAPTIVE SCREWS AND BE ACCESSIBLE AFTER THE WORK HAS BEEN COMPLETED.

2.1.2 ELECTRICAL METALLIC TUBING (EMT): EMT SHALL BE IN ACCORDANCE WITH UL 797 AND BE ZINC COATED STEEL. COUPLINGS AND CONNECTORS SHALL BE ZINC-COATED, RAINTIGHT, GLAND COMPRESSION WITH INSULATION THROAT. CRIMP, SPRING, OR SETSCREW TYPE FITTINGS ARE NOT ACCEPTABLE.

2.1.3 FLEXIBLE METALLIC CONDUIT: FLEXIBLE METALLIC CONDUIT SHALL COMPLY WITH UL 1 AND BE GALVANIZED STEEL. FITTINGS FOR FLEXIBLE METALLIC CONDUIT SHALL BE SPECIFICALLY DESIGNED FOR SUCH CONDUIT. PROVIDE LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT WITH A PROTECTIVE JACKET OF PVC EXTRUDED OVER A FLEXIBLE INTERLOCKED GALVANIZED STEEL CORE TO PROTECT WIRING AGAINST MOISTURE, OIL, CHEMICALS, AND CORROSIVE FUMES. SPECIFICALLY DESIGN FITTINGS FOR LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT.

2.1.4 INTERMEDIATE METAL CONDUIT: INTERMEDIATE METAL CONDUIT SHALL COMPLY WITH UL 1242 AND BE GALVANIZED.

2.1.5 RIGID NONMETALLIC CONDUIT: RIGID NONMETALLIC CONDUIT SHALL COMPLY WITH NEMA TC 2 AND NEMA TC 3 WITH WALL THICKNESS NOT LESS THAN SCHEDULE 40.

2.1.6 WIREWAYS AND AUXILIARY GUTTERS: WIREWAY AND AUXILIARY GUTTERS SHALL BE A MINIMUM 4- BY 4 INCH TRADE SIZE CONFORMING TO UL 870.

2.1.7 SURFACE RACEWAYS AND ASSEMBLIES: SURFACE METAL RACEWAYS AND MULTI-OUTLET ASSEMBLIES SHALL CONFORM TO NFPA 70. RECEPTACLES SHALL CONFORM TO NEMA WD 1, TYPE 5-20R.

2.2 WIRE AND CABLE

CONDUCTORS INSTALLED IN CONDUIT ABOVE GROUND SHALL BE COPPER 600-VOLT TYPE THWN-2, CONDUCTORS INSTALLED UNDERGROUND SHALL BE TYPE XHHW. ALL CONDUCTORS AWG NO. 8 AND LARGER, SHALL BE STRANDED. ALL CONDUCTORS SMALLER THAN AWG NO. 8 SHALL BE SOLID. FLEXIBLE CABLE SHALL BE TYPE SO AND CONTAIN A GROUNDING CONDUCTOR WITH GREEN INSULATION. CONDUCTORS INSTALLED IN PLENUMS SHALL BE MARKED PLENUM RATED.

2.3 SPLICES AND CONNECTORS

MAKE ALL SPLICES IN AWG NO. 8 AND SMALLER WITH APPROVED INSULATED ELECTRICAL TYPE OR INDENTOR CRIMP-TYPE CONNECTORS AND COMPRESSION TOOLS. MAKE ALL SPLICES IN AWG NO. 6 AND LARGER WITH BOLTED CLAMP-TYPE CONNECTORS. JOINTS SHALL BE WRAPPED WITH AN INSULATING TAPE THAT HAS AN INSULATION AND TEMPERATURE RATING EQUIVALENT TO THAT OF THE CONDUCTOR.

2.4 SWITCHES

ALL WIRING DEVICES SHALL BE HUBBELL, P & S, BYRANT, G.E. OR LEVITON UNDERWRITER'S APPROVED, NEC RATED AND SPECIFICATION GRADE

2.4.1 SAFETY SWITCHES: SAFETY SWITCHES SHALL COMPLY WITH NEMA KS 1, AND BE THE HEAVY-DUTY TYPE WITH ENCLOSURE, VOLTAGE, CURRENT RATING, NUMBER OF POLES, AND FUSING AS INDICATED. MAKE PROVISIONS TO LOCK THE HANDLE IN THE "OFF" POSITION, BUT THE SWITCH SHALL NOT BE CAPABLE OF BEING LOCKED IN THE "ON" POSITION. PROVIDE SWITCHES OF THE QUICK-MAKE, QUICK-BREAK TYPE. APPROVE TERMINAL LUGS FOR USE WITH COPPER CONDUCTORS. SAFETY COLOR CODING FOR IDENTIFICATION OF SAFETY SWITCHES SHALL CONFORM TO ANSI Z535.1.

2.4.2 TOGGLE SWITCHES: TOGGLE SWITCHES SHALL COMPLY WITH EIA 480, CONTROL INCANDESCENT, MERCURY, AND FLUORESCENT LIGHTING FIXTURES AND BE OF THE HEAVY DUTY, GENERAL PURPOSE, NONINTERCHANGEABLE FLUSH-TYPE. TOGGLE SWITCHES SHALL BE COMMERCIAL GRADE TOGGLE TYPE, SINGLE, DOUBLE-POLE, THREE/FOUR-WAY TWO-POSITION DEVICES RATED 20 AMPERES AT 120 OR 277 VOLTS, 60 HERTZ ALTERNATING CURRENT (AC) ONLY. ALL TOGGLE SWITCHES SHALL BE PRODUCTS OF THE SAME MANUFACTURER.

2.5 RECEPTACLES

RECEPTACLES SHALL BE COMMERCIAL GRADE, 20A, 125 VAC, 2-POLE, 3-WIRE DUPLEX CONFORMING TO NEMA WD 6, NEMA 5-20R.

2.6 OUTLETS, OUTLET BOXES, AND PULL BOXES

OUTLET BOXES FOR USE WITH CONDUIT SYSTEMS SHALL BE IN ACCORDANCE WITH ANSI/NEMA FB 1 AND ANSI/NEMA OS 1 AND BE NOT LESS THAN 1-1/2 INCHES DEEP. FURNISH ALL PULL AND JUNCTION BOXES WITH SCREW-FASTENED COVERS.

2.7 CIRCUIT BREAKERS

CIRCUIT-BREAKER INTERRUPTING RATING SHALL BE NOT LESS THAN THOSE INDICATED AND IN NO EVENT LESS THAN THE MAXIMUM AVAILABLE FAULT CURRENT AT THE LOCATION. MULTIPOLE CIRCUIT BREAKERS SHALL BE THE COMMON-TRIP TYPE WITH A SINGLE HANDLE. MOLDED CASE CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE CONFORMING TO UL 489.

2.8 LAMPS AND LIGHTING FIXTURES

MANUFACTURERS AND CATALOG NUMBERS SHOWN ARE INTENDED TO RESTRICT THE SELECTION TO FIXTURES OF THE PARTICULAR MANUFACTURER UNLESS STATED AS “OR EQUAL” IN THE SCHEDULE. FIXTURES WITH THE SAME SALIENT FEATURES AND EQUIVALENT LIGHT DISTRIBUTION AND BRIGHTNESS CHARACTERISTICS, OF EQUAL FINISH AND QUALITY, MAY BE ACCEPTABLE. PROVIDE LAMPS OF THE PROPER TYPE AND WATTAGE FOR EACH FIXTURE. BALLASTS SHALL BE HIGH POWER FACTOR AND BE ENERGY EFFICIENT. BALLASTS SHALL HAVE A CLASS P TERMINAL PROTECTIVE DEVICE FOR 120 OR 277-VOLT OPERATION AS INDICATED AND BE RAPID-START FLUORESCENT. BALLASTS SHALL BE "A" SOUND RATED. FLUORESCENT LAMPS SHALL BE STANDARD REDUCED WATTAGE TYPE. HIGH INTENSITY DISCHARGE (HID) LIGHTING FIXTURES SHALL HAVE PREWIRED INTEGRAL BALLASTS AND CAST ALUMINUM HOUSINGS COMPLETE WITH TEMPERED GLASS LENSES SUITABLE FOR INSTALLATION IN DAMP OR WET LOCATIONS. PROVIDE FIXTURES AND LAMPS.

PART 3 EXECUTION

ALL WORK SHALL BE PERFORMED BY TRAINED, EXPERIENCED PERSONNEL SKILLED IN THEIR VARIOUS CRAFTS, UNDER THE FULL TIME SUPERVISION OF AN APPROVED ENGINEER OR FOREMAN.

3.1 CONDUITS, RACEWAYS AND FITTINGS

PROVIDE A COMPLETE RACEWAY AND WIRING INSTALLATION, PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES. CONDUIT RUNS BETWEEN OUTLET AND OUTLET, BETWEEN FITTING AND FITTING, OR BETWEEN OUTLET AND
FITTING SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF THREE 90-DEGREE BENDS, INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE OUTLET OR FITTING. WIRING OF EVERY KIND MUST BE INSTALLED IN CONDUIT, UNLESS NOTED OTHERWISE OR AS APPROVED BY THE ARCHITECT. RACEWAYS SHALL BE GALVANIZED STEEL, UNLESS REQUIRED OTHERWISE OR AS NOTED AND SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, UNLESS NOTED OTHERWISE. ALL RACEWAYS SHALL BE APPROVED FOR THE INSTALLATION. DO NOT INSTALL CRUSHED OR DEFORMED CONDUIT. AVOID TRAPPED CONDUIT RUNS WHERE POSSIBLE. PULL OR JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO FACILITATE INSTALLATION OF RACEWAYS AND WIRING. TAKE CARE TO PREVENT THE LODGMENT OF FOREIGN MATERIAL IN THE CONDUIT, BOXES, FITTINGS, AND EQUIPMENT DURING THE COURSE OF CONSTRUCTION. CLEAR ANY CLOGGED CONDUIT OF OBSTRUCTIONS OR BE REPLACED. CONDUIT AND RACEWAY RUNS CONCEALED IN OR BEHIND WALLS, ABOVE CEILINGS, OR EXPOSED ON WALLS AND CEILINGS 5 FEET OR MORE ABOVE FINISHED FLOORS AND NOT SUBJECT TO MECHANICAL DAMAGE SHALL BE ELECTRICAL METALLIC TUBING (EMT). WIRE INSTALLED IN A PLENUM RATED CEILING SHALL BE INSTALLED IN CONDUIT OR SHALL BE TEFLON COATED PLENUM RATED AS REQUIRED TO COMPLY WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODE REQUIREMENTS.

3.1.1 RIGID STEEL CONDUIT: MAKE FIELD-MADE BENDS AND OFFSETS WITH APPROVED HICKEY OR CONDUIT BENDING MACHINE. CONDUIT ELBOWS LARGER THAN 2-1/2 INCHES SHALL BE LONG RADIUS. PROVIDE ALL CONDUIT STUBBED-UP THROUGH CONCRETE FLOORS FOR CONNECTIONS TO FREE-STANDING EQUIPMENT WITH THE EXCEPTION OF MOTOR-CONTROL CENTERS, CUBICLES, AND OTHER SUCH ITEMS OF EQUIPMENT, WITH A FLUSH COUPLING WHEN THE FLOOR SLAB IS OF SUFFICIENT THICKNESS. OTHERWISE,PROVIDE A FLOOR BOX SET FLUSH WITH THE FINISHED FLOOR. CONDUITS INSTALLED FOR FUTURE USE SHALL BE TERMINATED WITH A COUPLING AND PLUG SET FLUSH WITH THE FLOOR.

3.1.2 ELECTRICAL METALLIC TUBING (EMT): EMT SHALL BE GROUNDED IN ACCORDANCE WITH NFPA 70, USING PRESSURE GROUNDING CONNECTORS ESPECIALLY DESIGNED FOR EMT.

3.1.3 FLEXIBLE METALLIC CONDUIT: USE FLEXIBLE METALLIC CONDUIT TO CONNECT RECESSED FIXTURES FROM OUTLET BOXES IN CEILINGS, TRANSFORMERS, AND OTHER APPROVED ASSEMBLIES. BONDING WIRES SHALL BE USED IN FLEXIBLE CONDUIT AS SPECIFIED IN NFPA 70, FOR ALL CIRCUITS. FLEXIBLE CONDUIT SHALL NOT BE CONSIDERED A GROUND CONDUCTOR. ELECTRICAL CONNECTIONS TO VIBRATION-ISOLATED EQUIPMENT SHALL BE MADE WITH FLEXIBLE METALLIC CONDUIT. LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED IN WET AND OILY LOCATIONS AND TO COMPLETE THE CONNECTION TO MOTOR-DRIVEN EQUIPMENT.

3.1.4 INTERMEDIATE CONDUIT: MAKE ALL FIELD-MADE BENDS AND OFFSETS WITH APPROVED HICKEY OR CONDUIT BENDING MACHINE. USE INTERMEDIATE METAL CONDUIT ONLY FOR INDOOR INSTALLATIONS.

3.1.5 RIGID NONMETALLIC CONDUIT: RIGID PVC CONDUIT SHALL BE DIRECT BURIED. A GREEN INSULATED COPPER GROUNDING CONDUCTOR SHALL BE IN CONDUIT WITH CONDUCTORS AND BE SOLIDLY CONNECTED TO GROUND AT EACH END. GROUNDING WIRES SHALL BE SIZED IN ACCORDANCE WITH NFPA 70.

3.1.6 WIREWAY AND AUXILIARY GUTTER: STRAIGHT SECTIONS AND FITTINGS SHALL BE BOLTED TOGETHER TO PROVIDE A RIGID, MECHANICAL CONNECTION AND ELECTRICAL CONTINUITY. DEAD ENDS OF WIREWAYS AND AUXILIARY GUTTERS SHALL BE CLOSED. PLUG ALL UNUSED CONDUIT OPENINGS. WIREWAYS FOR OVERHEAD DISTRIBUTION AND CONTROL CIRCUITS SHALL BE SUPPORTED AT MAXIMUM 5-FOOT INTERVALS. AUXILIARY GUTTERS USED TO SUPPLEMENT WIRING SPACES FOR EQUIPMENT NOT CONTAINED IN A SINGLE ENCLOSURE SHALL CONTAIN NO SWITCHES, OVERCURRENT DEVICES, APPLIANCES, OR APPARATUS AND BE NOT MORE THAN 30 FEET LONG.

3.1.7 SURFACE RACEWAYS AND ASSEMBLIES: SURFACE RACEWAYS SHALL BE MOUNTED PLUMB AND LEVEL, WITH THE BASE AND COVER SECURED. MINIMUM CIRCUIT RUN SHALL BE THREE-WIRE WITH ONE WIRE DESIGNATED AS GROUND.

3.2 WIRING

CONDUCTORS UP TO AND INCLUDING AWG NO. 2 SHALL BE MANUFACTURED WITH COLORED INSULATING MATERIALS. CONDUCTORS LARGER THAN AWG NO. 2 SHALL HAVE ENDS IDENTIFIED WITH COLOR PLASTIC TAPE IN OUTLET, PULL, OR JUNCTION BOXES. SPLICE IN ACCORDANCE WITH THE NFPA 70. PROVIDE CONDUCTOR IDENTIFICATION WITHIN EACH ENCLOSURE WHERE A TAP, SPLICE, OR TERMINATION IS MADE AND AT THE EQUIPMENT TERMINAL OF EACH CONDUCTOR. TERMINAL AND CONDUCTOR IDENTIFICATION SHALL MATCH AS INDICATED. WHERE SEVERAL FEEDERS PASS THROUGH A COMMON PULLBOX, THE FEEDERS SHALL BE TAGGED TO CLEARLY INDICATE THE ELECTRICAL CHARACTERISTICS, CIRCUIT NUMBER, AND PANEL DESIGNATION.

3.3 SAFETY SWITCHES

SECURELY FASTEN SWITCHES TO THE SUPPORTING STRUCTURE OR WALL, UTILIZING A MINIMUM OF FOUR 1/4 INCH BOLTS. DO NOT USE SHEET METAL SCREWS AND SMALL MACHINE SCREWS FOR MOUNTING. DO NOT MOUNT SWITCHES IN AN INACCESSIBLE LOCATION OR WHERE THE PASSAGEWAY TO THE SWITCH MAY BECOME OBSTRUCTED. MOUNTING HEIGHT OF HANDLE SHALL BE 5 FEET ABOVE FLOOR LEVEL, WHEN POSSIBLE.

3.4 WIRING DEVICES

3.4.1 WALL SWITCHES AND RECEPTACLES: INSTALL WALL SWITCHES AND RECEPTACLES SO THAT WHEN DEVICE PLATES ARE APPLIED, THE PLATES WILL BE ALIGNED VERTICALLY TO WITHIN 1/16 INCH. GROUND TERMINAL OF EACH FLUSH-MOUNTED RECEPTACLE SHALL BE BONDED TO THE OUTLET BOX WITH AN APPROVED GREEN BONDING JUMPER WHEN USED WITH DRY WALL TYPE CONSTRUCTION.

3.4.2 DEVICE PLATES: DEVICE PLATES FOR SWITCHES THAT ARE NOT WITHIN SIGHT OF THE LOADS CONTROLLED SHALL BE SUITABLY ENGRAVED WITH A DESCRIPTION OF THE LOADS. DEVICE PLATES AND RECEPTACLE COVER PLATES FOR RECEPTACLES OTHER THAN 125-VOLT, SINGLE-PHASE, DUPLEX, CONVENIENCE OUTLETS SHALL BE SUITABLY MARKED, SHOWING THE CIRCUIT NUMBER, VOLTAGE, FREQUENCY, PHASING, AND AMPERAGE AVAILABLE AT THE RECEPTACLE. REQUIRED MARKING SHALL CONSIST OF A SELF-ADHESIVE LABEL HAVING 1/4 INCH EMBOSSED LETTERS. DEVICE PLATES FOR CONVENIENCE OUTLETS SHALL BE SIMILARLY MARKED INDICATING THE SUPPLY PANEL AND CIRCUIT NUMBER.

3.5 BOXES AND FITTINGS

FURNISH AND INSTALL PULLBOXES WHERE NECESSARY IN THE CONDUIT SYSTEM TO FACILITATE CONDUCTOR INSTALLATION. CONDUIT RUNS LONGER THAN 100 FEET OR WITH MORE THAN THREE RIGHT-ANGLE BENDS SHALL HAVE A PULLBOX INSTALLED AT A CONVENIENT INTERMEDIATE LOCATION. SECURELY MOUNT BOXES AND ENCLOSURES TO THE BUILDING STRUCTURE WITH SUPPORTING FACILITIES INDEPENDENT OF THE CONDUIT ENTERING OR LEAVING THE BOXES. MOUNTING HEIGHT OF WALL-MOUNTED OUTLET AND SWITCH BOXES, MEASURED BETWEEN THE BOTTOM OF THE BOX AND THE FINISHED FLOOR, SHALL BE IN ACCORDANCE WITH ICC/ANSI A117.1 AND AS FOLLOWS:

LOCATION	MOUNTING HEIGHT
SWITCHES FOR LIGHT CONTROL	42 INCHES

3.6 LAMPS AND LIGHTING FIXTURES

INSTALL NEW LAMPS OF THE PROPER TYPE AND WATTAGE IN EACH FIXTURE. SECURELY FASTEN FIXTURES AND SUPPORTS TO STRUCTURAL MEMBERS AND INSTALL PARALLEL AND PERPENDICULAR TO MAJOR AXIS OF STRUCTURES.

3.7 IDENTIFICATION PLATES AND WARNINGS

FURNISH AND INSTALL IDENTIFICATION PLATES FOR LIGHTING AND POWER PANELBOARDS, MOTOR CONTROL CENTERS, ALL LINE VOLTAGE HEATING AND VENTILATING CONTROL PANELS, FIRE DETECTOR AND SPRINKLER ALARMS, DOOR BELLS, PILOT LIGHTS, DISCONNECT SWITCHES, MANUAL STARTING SWITCHES, AND MAGNETIC STARTERS. PROCESS CONTROL DEVICES AND PILOT LIGHTS SHALL HAVE IDENTIFICATION PLATES. FURNISH IDENTIFICATION PLATES FOR ALL LINE VOLTAGE ENCLOSED CIRCUIT BREAKERS, IDENTIFYING THE EQUIPMENT SERVED, VOLTAGE, PHASE(S) AND POWER SOURCE. CIRCUITS 480 VOLTS AND ABOVE SHALL HAVE CONSPICUOUSLY LOCATED WARNING SIGNS IN ACCORDANCE WITH OSHA REQUIREMENTS. EACH IDENTIFICATION NAMEPLATE SHALL INCLUDE BUILDING NAME, PANELBOARD DESIGNATION, VOLTAGE AND WHERE PANELBOARD IS FED FROM.

3.8 FIELD TESTING

SUBMIT TEST REPORTS IN ACCORDANCE WITH REFERENCED STANDARDS IN THIS SECTION. AFTER COMPLETION OF THE INSTALLATION AND SPLICING, AND PRIOR TO ENERGIZING THE CONDUCTORS, PERFORM WIRE AND CABLE CONTINUITY AND INSULATION TESTS AS HEREIN SPECIFIED BEFORE THE CONDUCTORS ARE ENERGIZED. CONTRACTOR SHALL PROVIDE ALL NECESSARY TEST EQUIPMENT, LABOR, AND PERSONNEL TO PERFORM THE TESTS, AS HEREIN SPECIFIED. ISOLATE COMPLETELY ALL WIRE AND CABLE FROM ALL EXTRANEOUS ELECTRICAL CONNECTIONS AT CABLE TERMINATIONS AND JOINTS. SUBSTATION AND SWITCHBOARD FEEDER BREAKERS, DISCONNECTS IN COMBINATION MOTOR STARTERS, CIRCUIT BREAKERS IN PANEL BOARDS, AND OTHER DISCONNECTING DEVICES SHALL BE USED TO ISOLATE THE CIRCUITS UNDER TEST.

PERFORM INSULATION-RESISTANCE TEST ON EACH FIELD-INSTALLED CONDUCTOR WITH RESPECT TO GROUND AND ADJACENT CONDUCTORS. APPLIED POTENTIAL SHALL BE 500 VOLTS DC FOR 300 VOLT RATED CABLE AND 1000 VOLTS DC FOR 600 VOLT RATED CABLE. TAKE READINGS AFTER 1 MINUTE AND UNTIL THE READING IS CONSTANT FOR 15 SECONDS. MINIMUM INSULATION-RESISTANCE VALUES SHALL NOT BE LESS THAN 25 MEGOHMS FOR 300 VOLT RATED CABLE AND 100 MEGOHMS FOR 600 VOLT RATED CABLE. FOR CIRCUITS WITH CONDUCTOR SIZES 8AWG AND SMALLER INSULATION RESISTANCE TESTING IS NOT REQUIRED.

PERFORM CONTINUITY TEST TO INSURE CORRECT CABLE CONNECTION (I.E CORRECT PHASE CONDUCTOR, GROUNDED CONDUCTOR, AND GROUNDING CONDUCTOR WIRING) END-TO END. ANY DAMAGES TO EXISTING OR NEW ELECTRICAL EQUIPMENT RESULTING FROM CONTRACTOR MIS-WIRING WILL BE REPAIRED AND RE-VERIFIED AT CONTRACTOR'S EXPENSE. ALL REPAIRS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO ACCEPTANCE OF THE REPAIR.

CONDUCT PHASE-ROTATION TESTS ON ALL THREE-PHASE CIRCUITS USING A PHASE-ROTATION INDICATING INSTRUMENT. PERFORM PHASE ROTATION OF ELECTRICAL CONNECTIONS TO CONNECTED EQUIPMENT CLOCKWISE, FACING THE SOURCE.

3.9 GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THE ELECTRICAL SYSTEM TO BE FREE FROM DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE.

END OF SECTION 262000

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REVISIONS:

DATE: 5/17/2017
DRAWN BY: SDS
CHECKED BY: SDSE

ELECTRICAL SPECIFICATIONS

PROJECT #: SDSE 17-013

SHEET NUMBER:
SE103
of
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