City of Joliet

Public Works Standards

150 WEST JEFFERSON STREET
JOLIET, ILLINOIS 60432-4158

City standards apply to public property and private property.

The entire set of standards shall be attached to construction drawings and shall be considered part thereto.

WARNING !!!

811 Call before you dig
It's a free service

CITY OF JOLIET
UTILITY
INFORMATION
724-4220

ISSUANCE DATE: 06/24/2024

Directions of Use

1. Details prepared by outside sources shall not be included in the construction drawings when said details cover work which is covered by City Standards.
2. Individual City standards that do not apply may be crossed out by the Design Engineer through the placement of a single X over the detail. Minor reference notations may be placed adjacent to individual standard titles for coordination. However, the standards themselves shall not be modified in any way.
3. Details prepared by outside sources covering work which is not covered by City standards are the sole responsibility of the design Engineer and shall be placed on sheets other than the City standard sheets.
4. Failure to properly execute the above directions for use, will not effect the applicability nor the enforcement of City standards.

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27	TREE, SIGNAGE & STRIPING REQUIREMENTS
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34-42	LPR & FLOCK REQUIREMENTS

GREGORY P. RUDDY
062-054560
REGISTERED PROFESSIONAL ENGINEER
OF
ILLINOIS

Date Sealed _____

Date Expired _____

APPROVED BY:
CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
GREGORY P. RUDDY, P.E.

_____
PUBLIC WORKS DIRECTOR

REV: PG. 10 – TYPICAL UTILITY SECTION 07/2025

Public Works Construction Standards

SCALE: NONE | DATE: March 2024 | SHEET 1 OF 42

CHECKED BY: GPR | DESIGNED BY: SWM | DRAWN BY: SWM

CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
(815)-724-4200

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GENERAL NOTES

1. The cost of any labor or materials necessary in connecting existing drain tiles or storm sewer to proposed drainage structures, or in connecting proposed storm sewers to existing drainage structures shall be considered incidental to the proposed drainage structures or storm sewers.

2. The location of underground utilities on the plans represents the best knowledge of the City and the indicated adjustments or reconstructions are considered to be reasonably accurate. It shall be the Contractor's responsibility, as detailed in Section 107.39 of the Standard Specifications, to verify locations of underground utilities before starting construction operations. The Contractor shall indemnify the City, its Officers, and employees against all claims due to damage to corporate or private property resulting from his construction operations as described in Articles 107.20 and 107.26 of the Standard Specifications. The Contractor shall make his own investigation to determine the existence, nature and location of all utility lines and appurtenances within the limits of improvements. The Contractor will be responsible for performing exploratory excavation to expose any underground utility – including services – with a City representative present and identifying all possible utility conflicts within the proposed public improvement prior to excavating for the roadway. The Contractor shall backfill these exploratory excavation sites with trench backfill and shall maintain the roadway until all the identified utility conflicts are resolved. The cost of the exploratory excavation for underground utilities shall be considered incidental to the contract. No other compensation shall be allowed for this work. The Contractor will be required to cooperate with all Contractors, Utility companies, and the City of Joliet, involved with the removal, temporary relocation, reconstruction, or abandonment by these agencies of any and all services or facilities owned or operated by them within the limits of the improvement. Before doing any work which will damage, disturb, or leave unsupported or unprotected any utility lines encountered, the Contractor shall notify the respective owner thereof, who will make arrangements for relocating, adjusting, or otherwise maintaining or abandoning services or lines that fall within the limits of the proposed construction without cost to the Contractor, including the removal of cables, manhole covers, and other appurtenances which the owner desires to salvage. After such arrangements have been made, the Contractor will proceed with the work as directed by the Engineer. No extra compensation will be allowed the Contractor for any expenses incurred by complying with these requirements, or because of delays, inconvenience, or interruptions in his work resulting from the failure of any City or Utility Company to remove, relocate, reconstruct, or abandon their services when required by the Contractor's operations. An extension of time may be granted to the extent the Contractor's operations were affected. The Contractor shall be responsible for coordinating his work with that of these agencies as to ensure that this improvement is not delayed because of necessary changes in the existing utilities, public or private.

   The Contractor shall take whatever precautions which may be necessary to protect the property of various utilities which may be located underground or above ground, at or adjacent to the site of this improvement. The contractor will be required to repair or replace at his own expense or bear the cost of having the utility repair or replace any public/private utility which has been damaged through his efforts. The procedure and specifications of repair will be in accordance with the regulations and/or policy of the utility. The Utility shall be given notice by the Contractor to locate and identify all their installations at the site of this improvement so that this improvement is not delayed because of necessary changes in the existing utilities, public or private.

3. The Contractor shall proceed with caution for any excavation and preparation of the trench so that the exact location of underground structures may be determined. Prior to proceeding with any excavation, the contractor shall contact all utility companies in the area to aid in locating their underground services.

   The Contractor shall contact the involved utility companies not less than 48 hours prior to beginning construction. The majority of these utilities may be contacted through J.U.L.I.E. at (800) 892–0123. In addition, the Contractor shall be responsible to contact the Department of Public Utilities 48 hours prior to beginning the construction at (815)724–4220. It shall remain the Contractor's responsibility to contact all utilities.

   The Contractor shall take all reasonable precautions against damage to existing utilities. However, in the event of a break in an existing watermain, gas main, sewer, or underground cable, he shall immediately notify the responsible official of the organization operating the utility interrupted. The Contractor shall lend all possible assistance in restoring services and shall assume all cost, charges, and claims connected with the interruption and repair of such services.

   Privately owned utilities requiring adjustment will be adjusted by the utility company involved. No additional compensation will be allowed for any delays or inconveniences caused the Contractor due to said adjustments.

4. Trench backfill must be provided under all structural elements within 5 feet including roadway surfaces, driveways, sidewalks, etc. and as directed by the Engineer.

5. Existing sidewalk, pavement, driveway pavement and curb and gutter damage due to the Contractor's operations shall be replaced at the expense of the Contractor.

6. For all manholes, catch basins, and inlets, the distance shown on the plans is from the baseline to the center of the structure.

7. All existing valve vaults and manholes indicated on the plans or as directed by the Engineer shall be covered with a Contractor–supplied steel plate at all times during construction. Upon preparation for binder course, the frame shall be installed to the surface elevation as shown on the plans or as directed by the Engineer and set in concrete according to the Standard Specifications.

8. This project is to be built according to the City of Joliet Special Provisions and General Conditions latest revision unless otherwise stated in the contract documents.

9. Where section or sub–section monuments are encountered, the Engineer shall be notified before such monuments are removed. The Contractor shall protect and carefully preserve all property markers and monuments until the owner and an authorized surveyor or agent has witnessed or otherwise referenced their location. However, if damaged irons occur, it is the responsibility of the Contractor to restore the marker per Registered Land Surveyor at his own expense.

10. It shall be the responsibility of the Contractor to construct each inlet or catch basin at the proper location so that the frame or grate matches the curb line as shown in the applicable Standard.

11. All proposed manholes, catch basins and inlets shall be fabricated to include no less than four (4) inches of adjusting rings to meet the required grade.

12. All structure rim elevations located in the curb line are top of curb elevations unless otherwise noted.

13. All grassed areas disturbed during construction operations shall be seeded or sodded in accordance with Sections 642 and 644 of the Standard Specifications, as indicated in the plans.

14. Quantities for adjusting sanitary sewer services and water service lines have been added to the summary of quantities and the contract to provide a unit price bid for the item and are to be used only if field conditions require their use, as approved by Engineer.

15. The Contractor shall protect existing or new utilities by methods approved by the Engineer and shall brace and support the utilities properly to prevent settlement, displacement, or damage to the utilities. The protection of the utilities as specified herein, will not be paid for separately, but shall be considered incidental to the contract.

16. Existing street signs, markers stop signs, and all other roadway signs shall be removed and replaced by the Contractor as per current MUTCD standards and as directed by the Engineer. This work is considered included in the contract and will not be paid for directly. Signs and posts damaged by the contractor shall be replaced by him at his own expense.

17. Sidewalk ramps for the handicapped shall be constructed at locations where existing or proposed sidewalks abut the street returns within the limits of this improvement in accordance with Standard Specifications.

18. Timeliness of work: The contractor shall perform all work in a timely, orderly, and diligent manner. The Contractor shall cooperate with and conform to the request of the City to expedite particular portions of the work insofar as to complete certain phases of work in a timely manner. Work shall be completed within the timeframe as outlined in the Supplemental Special – WORKING DAYS (BDE) 80071. Contractor shall submit a PROJECT SCHEDULE showing coordination of sub–contractors and sequencing of work. Construction of the concrete curb & gutter shall begin within five (5) working days of the completion of the roadway grading and subbase preparation. Upon completion of the concrete curb & gutter, construction of the driveway aprons shall begin, and remain continuous, such that driveways shall not remain inaccessible for more than 20 calendar days, as measured from the date of completion of roadway excavation. If the contractor cannot meet these requirements, he shall provide temporary stone access to all affected driveways. No additional compensation will be allowed for providing, placing, and removing all temporary access stone.

19. Protection of property and surface structures: Trees, shrubbery fences, poles, right–of–way pins and all other property and surface structures shall be protected during construction operations unless the Engineer authorizes their removal for purposes of construction. Any fences, poles, or other manmade surface improvements, which are moved or disturbed by the Contractor shall be restored to the original conditions, after construction is completed, at the Contractor's expense. Any trees, shrubbery, or other vegetation, which are approved for removal by the Engineer in order to facilitate construction operations, shall be removed completely, including stumps and roots, by the Contractor. Responsibility for any damage or claims for damage caused by construction operations to shrubbery or other landscape improvements, which were not authorized for removal by the Engineer, shall be assumed by the Contractor.

20. Work to be Done by Others: The City of Joliet Department of Public Works and Utilities, Com–Ed, NICOR, AT&T, and others may be adjusting their facilities during construction of this section. In such event, it will be necessary for the Contractor to cooperate with the various organizations and the City while they are doing this work. All street lighting/utility poles and luminaries required to be moved shall be relocated and wired by the owner of the pole as per their franchise agreement. No compensation shall be allowed to the Contractor for street lighting/utility pole relocation work.

21. In accordance with Article 105.09 of the "Standard Specifications", the Contractor shall furnish to the City of Joliet Department of Public Works Office, 150 W. Jefferson Street, at his/her expense, construction layout stakes for the project. The material for all layout stakes and lathe shall be oak, Layout stakes (hubs) shall be 2"x2"x15". Lathe shall be four (4') feet in length. Hubs shall be provided at a rate of one bundle per 300 linear feet of project length for curb and gutter construction and at a rate of one bundle per 600 linear feet of project length for all other construction projects. Lathe shall be provided at a rate of one bundle per 600 linear feet of project length for all construction. The cost incurred by the Contractor in complying with this requirement shall be considered incidental to the contract.

22. All lot irons damaged or removed during construction shall be replaced by the contractor and said cost of replacement shall be included in the cost of the contract.

23. All public improvement projects shall be submitted under different permit cover for review and approval.

24. Installation of or provisions for the installation of all underground utilities (including service laterals) to be placed under pavement areas shall be established prior to the construction of the pavement. The City reserves the right to require trenchless construction for crossing of existing streets.

25. Wherever proprietary equipment or material is specified, all proposals for substitution shall be submitted in writing to the Director of Public Works and shall be subject to the findings of the Director.

26. Whenever a trench opening encroaches within five (5') feet of a street, sidewalk, driveway, and all other structural appurtenances, trench backfill shall be utilized in the form of CA–06.

27. Trench backfill shall be tested in accordance with the Standard Specifications for Road and Bridge Construction in Illinois. Testing frequency shall be one test per trench or one test per 100 linear feet of trench, whichever is greater.

28. The Contractor shall, at the Contractor own expense, provide a detailed video log of the existing site conditions prior to construction. the Contractor shall provide such video log in an acceptable format to the City of Joliet. If the Contractor chooses not to complete the video log prior to construction, the Contractor shall be responsible for all property owner complaints that arise at the completion of construction. all repairs from such complaints shall be at the Contractors expense.

29. Removal and replacement of mailboxes shall be in accordance with Section 107 of the Standard Specifications and shall be included in the cost of the contract.

30. Failure to complete work on time shall be in accordance with Section 108 of the Standard Specifications.

CITY OF JOLIET ORDINANCES & REGULATIONS

1. Subdivision Regulations
2. Illinois Department of Transportation Standard Specifications for Road and Bridge Construction
3. Bureau of Design and Environmental Manual
4. Manual on Uniform Traffic Control Devices (MUTCD)
5. Zoning Ordinance
6. Stormwater Management Regulations
7. Illinois Urban Manual
8. Parking Lot Lighting Ordinance
9. City of Joliet Special Provisions
10. City of Joliet General Conditions
11. Public Rights–of–Way Accessibility Guidelines (PROWAG)
12. City of Joliet ePlans – Electronic Plan Review
13. Federal Highway Administration (FHWA) Standards
14. Illuminating Engineering Society of North America
15. ComEd Street Light Standards

Public Works Construction Standards
General Notes

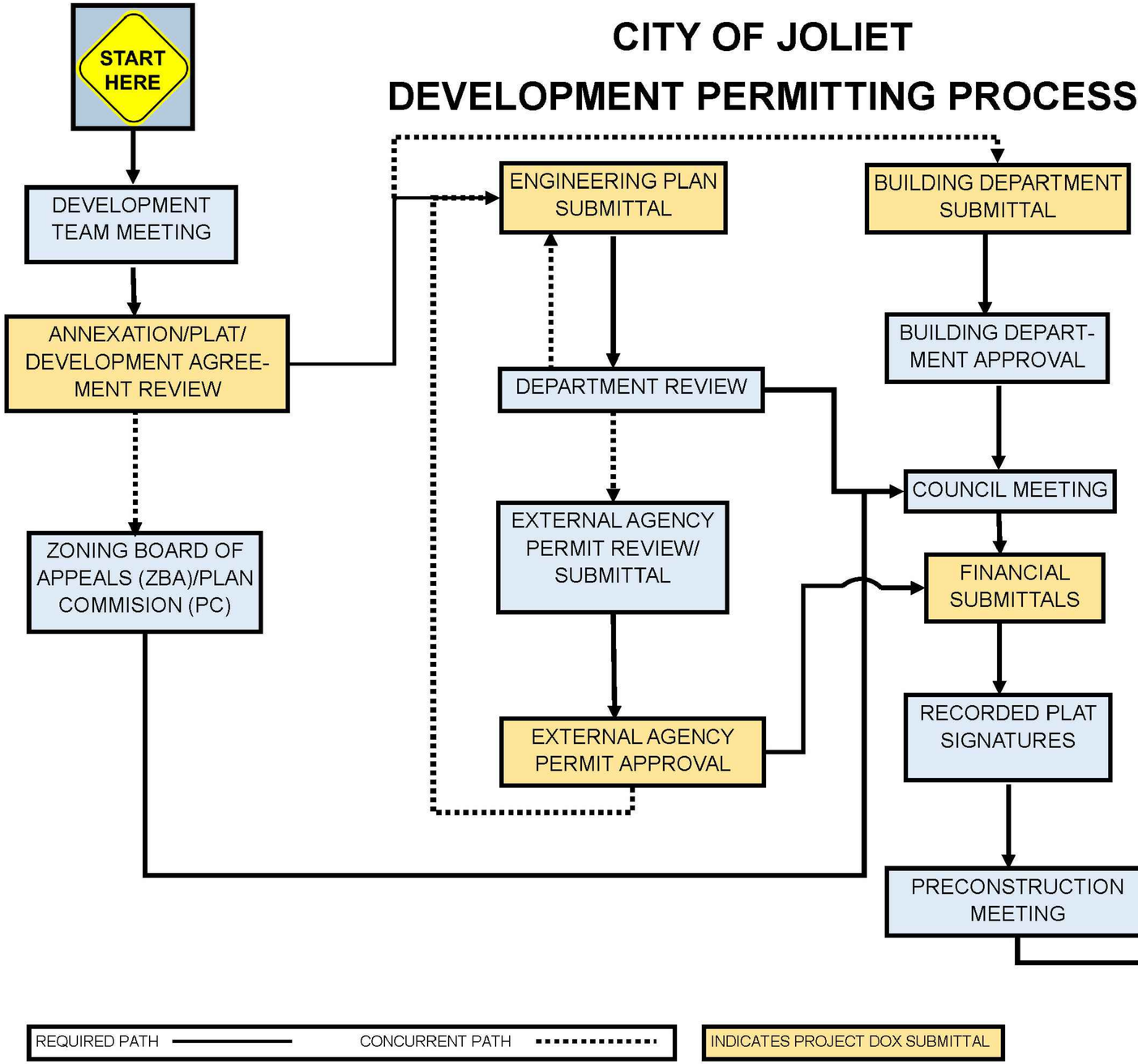
SCALE: NONE | DATE: March 2024 | SHEET 2 OF 39

CHECKED BY: GPR | DESIGNED BY: SWM | DRAWN BY: SWM

CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
(815)–724–4200

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CITY OF JOLIET
DEVELOPMENT PERMITTING PROCESS



CITY OF JOLIET

- FLOW CHART REPRESENTS TYPICAL APPROVAL PROCESS. IF ALTERATIONS ARE MADE TO THE PROCESS, THEY WILL BE DICSUSSED AT THE DEVELOPMENT TEAM MEETING.
- THIS CHART IS A GUIDE FOR PLAN APPROVAL. ALL QUESTIONS REGARDING THE PROCESS SHOULD BE VERIFIED WITH THE CITY PRIOR TO ANY SUBMISSION.
- VARIANCES NEEDED SHALL FOLLOW THE ZONING BOARD OF APPEALS (ZBA) PROCESS AND BE APPROVED BY THE CITY COUNCIL.
- ALL PUBLIC IMPROVEMENT PROJECTS SHALL BE SUBMITTED UNDER SEPERATE COVER FOR APPROVAL

MEETING LOCATIONS

ZBA**
150 W. JEFFERSON ST
JOLIET, IL 60432

PLAN COMMISSION***
150 W. JEFFERSON ST
JOLIET, IL 60432

CITY COUNCIL****
150 W. JEFFERSON ST
JOLIET, IL 60432

**MEETS 3RD THURSDAY OF EACH MONTH @ 2:00PM
***MEETS 3RD THURSDAY OF EACH MONTH @ 4:00PM
****MEETS 1ST & 3RD TUESDAY OF EACH MONTH @ 6:30PM

REVISED 2023-08-08

Public Works Construction Standards
Development Permitting Process

SCALE: NONE | DATE: March 2024 | SHEET 3 OF 39
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CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
(815)-724-4200

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STATE & FEDERAL PERMITS

- STORMWATER NOTICE OF INTENT (NOI) ILR10
- ARMY CORP OF ENGINEERS SECTION 401
- ARMY CORP OF ENGINEERS SECTION 404
- ILLINOIS DEPARTMENT OF NATURAL RESOURCES (IDNR) REPORT FOR ENDANGERED SPECIES
- ILLINOIS HISTORIC PRESERVATION AGENCY (IHPA) REPORT
- CONDITIONAL LETTER OF MAP REVISION (CLOMR)
- LETTER OF MAP REVISION (LOMR)
- ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT) PERMIT
- WILL COUNTY DEPARTMENT OF TRANSPORTATION (WCDOT) PERMIT
- KENDALL COUNTY DEPARTMENT OF TRANSPORTATION (KCDOT) PERMIT

ADDITIONAL REQUIRED DOCUMENTS

- ANNEXATION AGREEMENT/DEVELOPMENT AGREEMENT
- PLATS OF SUBDIVISION
- IRREVOCABLE OFFER OF DEDICATION
- TRAFFIC IMPACT STUDY (TIS)
- INTERSECTION DESIGN STUDY (IDS)
- CITY OF JOLIET DRIVE-THRU PERMIT
- WETLAND DELINEATION
- STORMWATER MANAGEMENT REPORT
- STORM SEWER SIZING CALCULATIONS
- ENGINEERS OPINION OF PROBABLE CONSTRUCTION COST (EOPCC) UTILIZING PUBLICLY BID PRICES
- GEOTECHNCIAL REPORT
- CLEAN CONSTRUCTION OR DEMOLITION DEBRIS (CCDD)
- STORM WATER POLLUTION PREVENTION PLAN
- WATER/SEWER LOAD INFORMATION

FINANCIAL SUBMITTALS

- LETTER OF CREDIT (LOC)
  - LOC UTILIZING PUBLIC BID PRICES
- CONTRACTOR INSURANCE
- ENGINEERING REVIEW FEES
- INSPECTION FEES
- BUILDING DEPARTMENT REVIEW FEES
- IRREVOCABLE LETTER OF DEDICATION

SHEET STANDARD DOCUMENTS

- TITLE SHEET
- GENERAL NOTES
- ALIGNMENT, TIES, & BENCHMARKS
- TYPICAL SECTIONS
- DEMOLITION & REMOVAL PLAN
- FIELD TILE SURVEY
- GRADING PLAN
- STORMWATER MANAGEMENT VOLUME TABLE
- PLAN & PROFILE SHEETS (ROADWAYS & UTILITIES)
- GEOMETRIC PLAN
- INTERSECTION DETAILS
- PHOTOMETRIC PLAN
- STREET LIGHTING PLAN
- LANDSCAPING PLAN
- TREE SURVEY & PRESERVATION PLAN
- STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
- TRAFFIC SIGNAL & INTERCONNECT PLAN & DETAILS
- PAVEMENT MARKING & SIGNAGE PLAN
- TRAFFIC CONTROL PLAN
- DETOUR PLAN
- CROSS SECTIONS
- STANDARD DETAILS

PRECONSTRUCTION MEETING

- CONTRACTOR SCHEDULE
- HOT-MIX ASPHALT (HMA) MIX DESIGNS
- PORTALND CEMENT CONCRETE (PCC) MIX DESIGNS
- SHOP DRAWING SUBMITTALS
- SUB-CONTRACTOR LISTS
- EMERGENCY CONTACT INFORMATION
- PRIVATE UTILITY RELOCATIONS COMPLETED

CITY OF JOLIET

CITY OF JOLIET TEAM MEMBERS

PLANNING & ZONING

JIM TORRI (815) 724-4049 JTORRI@JOLIET.GOV
JAYNE BERNHARD (815) 724-4052 JBERNHARD@JOLIET.GOV
RAY HEITNER (815) 724-3913 RHEITNER@JOLIET.GOV
HELEN MILLER (815) 724-4041 HMILLER@JOLIET.GOV

BUILDING DEPARTMENT

DON PALLISSARD (815) 724-4073 DPALLISSARD@JOLIET.GOV
JAKE GLAVAN (815) 724-4146 JGLAVAN@JOLIET.GOV

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SEAN MIKOS (815) 724-4208 SMIKOS@JOLIET.GOV
KYLE HINSON (815) 724-4215 KHINSON@JOLIET.GOV

PUBLIC UTILITIES

ALLISON SWISHER (815) 724-4220 ASWISHER@JOLIET.GOV
JON HALL (815) 724-4255 JHALL@JOLIET.GOV

PRIVATE UTILITIES

COMED-(877) 426-6331

https://www.comed.com/DoingBusinessWithUs/Pages/Default.aspx

NICOR GAS-(888) 642-6748

gborjon@southernco.com

COMCAST/XFINITY-(800) 934-6489

https://www.xfinity.com/support/contact-us

AT&T-(800) 288-2020

https://www.att.com/support/internet/

Public Works Construction Standards
Development Permitting Process

SCALE: NONE | DATE: March 2024 | SHEET 4 OF 39

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CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
(815)-724-4200

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CITY OF JOLIET
DEVELOPMENT CLOSEOUT PROCESS

CITY OF JOLIET



LETTER OF CREDIT REDUCTION APPLICATION

EASEMENTS RECORDED

WATER MAIN SUBMITTALS

STORM SEWER SUBMITTALS

AS-BUILT SUBMISSION CAD/GIS SUBMITTALS

ROADWAY SUBMITTALS

SANITARY SUBMITTALS

STORM WATER MANAGEMENT VOLUME TABLES

LETTER OF CREDIT REDUCTION

ACCEPTANCE OF PUBLIC IMPROVEMENTS

LETTER OF CREDIT RELEASE

MAINTENANCE BOND ACCEPTANCE

MAINTENANCE BOND (18 MONTH REVIEW)

REPAIRS AS NEEDED/REQUESTED

MAINTENANCE BOND EXPIRATION (24 MONTH REVIEW)

REQUIRED PATH ——— CONCURRENT PATH - - - - - -

INDICATES PROJECT DOX SUBMITTAL

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Public Works Construction Standards
Development Permitting Process

SCALE: NONE
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SHEET 5 OF 39

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DEPARTMENT OF PUBLIC WORKS
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STORM SEWER SUBMITTALS

- STORM SEWER VIDEOS
- STORM SEWER VIDEO REPORTS
- TRENCH BACKFILL COMPACTION REPORTS & TICKETS
- SHOP DRAWING REVIEWS

SANITARY SEWER SUBMITTALS

- MANHOLE VACUUM TEST REPORTS
- SANITARY SEWER PRESSURE TESTING REPORTS
- MANDREL TESTING REPORTS
- TRENCH BACKFILL COMPACTION REPORTS & TICKETS
- SHOP DRAWING REVIEWS

ROADWAY SUBMITTALS (IDOT STANDARDS)

- HMA MIX DESIGNS
- HMA TICKETS
- HMA DENISTY TEST REPORTS
- PCC MIX DESIGNS
- PCC SLUMP, AIR, AND COMPRESSION TESTING REPORTS
- SUB-BASE MATERIAL TICKETS
- SUB-BASE DENISTY TEST REPORTS
- SUB-GRADE MODIFICATION (IF APPLICABLE)
- SHOP DRAWING REVIEWS

WATER MAIN SUBMITTALS

- CHLORINATION TEST REPORTS
- PRESSURE TEST REPORTS
- TRENCH BACKFILL COMPACTION REPORTS & TICKETS
- SHOP DRAWING REVIEWS

GENERAL SUBMITTALS

- INSPECTION DAILY REPORTS (IDR'S)
- SHOP DRAWING REVIEWS

AS-BUILT SUBMITTALS

General

1. Show any changes in location of the constructed improvements.
2. As-built Drawings shall be provided in the following formats:
   a. One (1) bound paper copy; signed and sealed.
   b. All electronic files required to document the as-built drawings as defined herein in AutoCAD 2021 (or newer) format via the City's Project Dox online portal. All electronic files shall be submitted in accordance with the City of Joliet 'Requirements for Electronic Submittals'.
3. Provide only plan view drawing at preferred scale of 1"=50'. Alternate allowable scales are 1"=40', 1"=30' and 1"=20'. Multiple sheets shall be used as necessary. Large scale details of stormwater restrictor structures and watermain interconnects are encouraged and may be required.
4. All structures shall be numbered or lettered using the same system as the approved engineering plans for the development.
5. The condition of the Bench Mark shown on the approved engineering plans shall be verified and noted on the as-built drawings. All elevations shall be referenced to North American Vertical Datum 1988 (NAVD 88) vertical datum using US Survey Feet as units.

Water Distribution System

1. Show locations, material and sizes of all mains, valves, hydrants, plugs, b-boxes, elbows, tees, crosses and all other appurtenances required by the engineering plans. Where standard cover was not achieved due to conflicts such as utility conflicts, profile of as-built elevation and note the existence of any sleeves around the watermain or other utility lines.
2. Show rim elevations for all valve vaults and valve boxes, including hydrant auxiliary boxes.
3. Show elevation of finished grade at hydrant for all fire hydrants.
4. Verify that all structures are visible, at the proper grade, and that all valves and b-boxes are operational prior to submitting as-built drawings.
5. Show as-built dimensions to water shut off.

Storm Sewer and Stormwater Management System

1. Show locations, material, sizes and slopes of all storm sewers, culverts, conveyance channels, and all other storm appurtenances.
2. Show locations, rims and invert elevations and type (i.e. manhole, catch basin, curb inlet, etc.) of all storm structures. For curb inlet structures, show the top of curb elevation. Verify that all structures are visible and at the proper grade prior to submitting as-built drawings.
3. Show as-built topography of all stormwater management basins and certify that restrictor and as-built detention volume meets or exceeds the requirements of the approved engineering plans. Show the as-built high water elevation for all basins and the normal water elevation and bottom contours for retention basins.
4. Show that critical overflow locations have been constructed according to the approved engineering plans. Show as-built cross sections of all overflow swales if cross sections were required for capacity calculations on the approved engineering plans.
5. Certify that the project is in compliance with the City's Stormwater Management Ordinance.

Sanitary Sewer System

1. Show locations, material, sizes and slopes of all sanitary sewer mains and service lines.
2. Show locations, rims and invert elevations and type (manhole, drop manhole, wet well, etc.) of all sanitary structures. Verify that all structures are visible and at the proper grade prior to submitting as-built drawings.

CITY OF JOLIET

Public Works Construction Standards
Development Permitting Process

SCALE: NONE | DATE: March 2024 | SHEET 6 OF 39

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DEPARTMENT OF PUBLIC WORKS
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AS-BUILT SUBMITTALS (CONT'D)

Miscellaneous Improvements

1. Show location of all street lights and electric lines from street lights to service box.
2. Verify that all concrete monuments shown on the Final Plat of Subdivision have been set and are visible. If not, notify Surveyor of As-built to have them installed.
3. Show parcel boundary lines, road ROW lines, and easement lines per final plat.
4. Show road centerlines.
5. Show jurisdictional Wetlands / Waters of the U.S. extent.
6. Show street sign location.
7. Show regulatory sign location and type (stop, yield, etc.).
8. Show traffic signal location.
9. Show pavement extent.
10. Show curb and gutter extent, indicate type.
11. Show gravel shoulder extent.
12. Show sidewalk extent.
13. Show trail / path extent

Certification

The following certification, signed by an Illinois Licensed Professional Engineer, shall be placed on the required as-built drawings:

State of Illinois)
)ss
County of _____)

We, _____(name of engineering firm)_____, hereby certify that these "As-built Drawings" have been prepared under our direct supervision and that the information contained hereon has been provided and/or verified by us and accurately reflects the existing conditions on _____(date)_____. We further certify that in our professional opinion, these "As-built Drawings" adequately depict and substantiate that the improvements constructed as part of this project will function in substantial conformance with the design intent of the engineering plans and specifications as accepted and approved by the City of Joliet.

By: _____(Signature)_____

Title: _____

Date: _____ seal

Illinois Licensed Professional Engineer No. _____

License Expiration Date: _____

REQUIREMENTS FOR ELECTRONIC SUBMITTALS

Overview

The developer/owner of any project within the City of Joliet shall submit a version of the final approved plans in electronic format for incorporation into the Joliet's geographic information system (GIS). This requirement applies to all new development that occurs within the City of Joliet.

Coordinate System

The coordinate information contained in the digital drawings or record plans shall be delivered in the Illinois State Plane - East coordinate system using the North American Datum 1983 horizontal datum (NAD_1983_StatePlane_Illinois_East_FIPS_1201 feet) and North American Vertical Datum 1988 vertical datum using US Survey feet as units. These data shall be produced in real coordinate space with an insertion point of (0,0). Horizontal and vertical accuracy of these data shall meet the minimum industry standards for surveys and maps.

Data Formats

In addition to the final as-built plans submitted in hard copy format a digital data file of the final as-built plans shall be provided to the Joliet in one of the following formats:

DWG (AutoCAD format)

ESRI Feature Class Geodatabase

An accompanying text file shall be included that describes the Layers along with the Layer Numbers or Layer Names in the digital data file. All digital files shall be mapped to scale and submitted to the Joliet via Project Dox online portal.

Data Layering Requirements

No formal layering scheme is required; however the following elements must be on separate layers:

Parcel Boundary Lines / Road ROW Lines
Road Centerline
Easement Line
Storm Sewer
Sanitary Sewer
Potable Water Line
Storm Structure
Sanitary Structure
Potable Water Structure
Fire Hydrants
Ponds / Detention Basins
Street Lights
Benchmarks
Edge of Pavement
Curb
Contours
Wetlands

Notes:

- *For ESRI formats, the Layering Requirements refer to a Layer or Level field in the attribute file of the digital data file.*
- *Line work for these features shall be continuous and should contain topological consistency with other lines i.e. lines shall not be broken by label text or connected to other lines by marker pins.*

CITY OF JOLIET

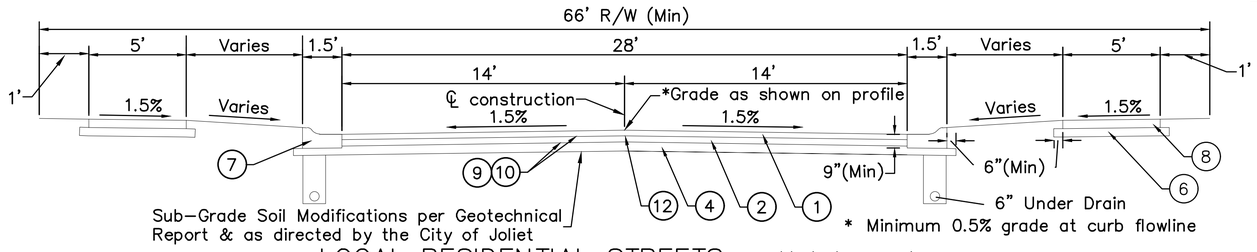
Public Works Construction Standards
Development Permitting Process

SCALE: NONE | DATE: March 2024 | SHEET 7 OF 39

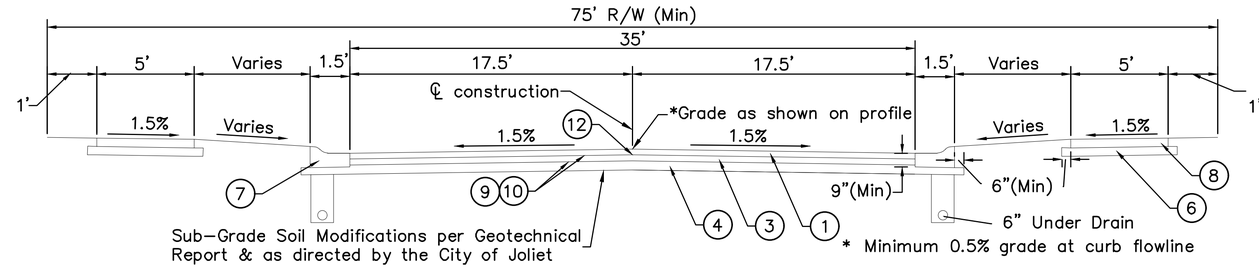
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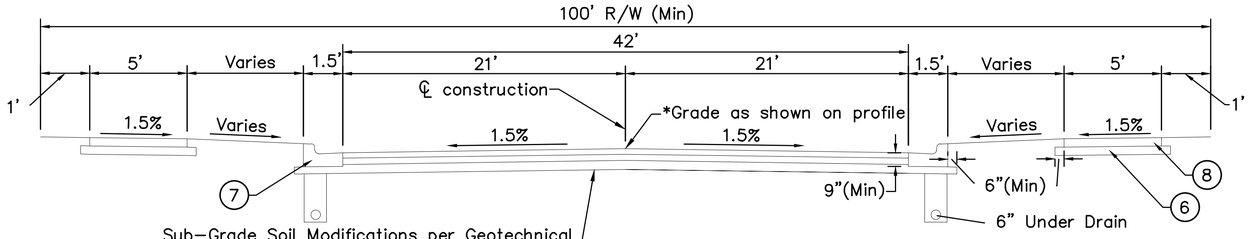
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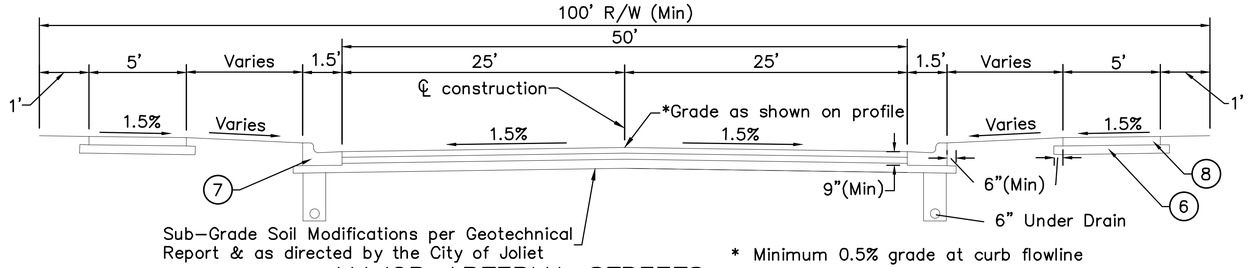
LOCAL RESIDENTIAL STREETS – Not to scale.



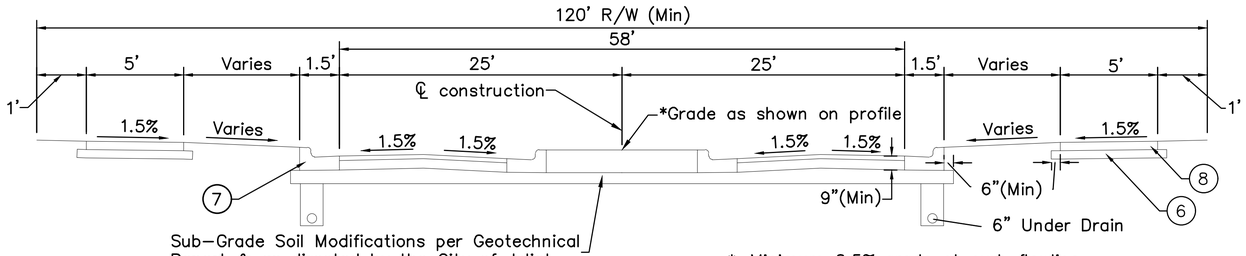
COLLECTOR STREETS – Not to scale.



MINOR ARTERIAL/MAJOR COLLECTOR STREETS – Not to scale



MAJOR ARTERIAL STREETS – Not to scale.



DIVIDED MAJOR ARTERIAL STREETS – Not to scale.

NOTES

1. The right of way widths, pavement widths, and pavement thicknesses indicated on this sheet are minimums required by the City of Joliet. Greater dimensions may be provided and the City of Joliet may require greater dimensions as determined by the City. The developer/contractor shall review the plat and the plans to confirm the various widths indicated on this sheet and shall report any discrepancy to the City prior to proceeding with construction.
2. The location of proposed utilities as indicated hereon are based upon the experience of the City of Joliet and are so indicated to ensure the orderly development of the land. Strict adherence to the indicated location is required. Requests to change the location of the proposed utilities shall be submitted in writing to the City of Joliet. Utilities not meeting these requirements shall be removed and replaced as directed by the City of Joliet.
3. Arterial street and divided arterial streets are to be coordinated with the City of Joliet.
4. Local residential streets require only stop bars and crosswalk markings. Markings shall be thermoplastic in accordance with IDOT Standard Specifications. Refer to such drawings covering pavement markings, street signs and traffic control signs. A plan of proposed pavement markings shall be submitted to the City of Joliet for approval.
5. Vertical curves shall be provided with algebraic differences of 1.2% or greater and meet the following: minimum length of 100 feet, minimum K value of 25.
6. Minimum curb radius at the intersection of two local streets shall be twenty (20') feet and the minimum curb radius at an intersection not involving local streets shall be twenty–five (25') feet.
7. The cross slope on all streets, including intersections, shall be two (2%) percent or less.
8. Subbase and subgrade shall be tested in accordance with the Standard Specifications. Compaction testing shall be at the developer/contractor's expense and shall be preformed by an independent laboratory. Test results shall be submitted to the City prior to placing any material on the subbase subgrade. Once in place density test shall be completed for each lift according to the Standard Specifications.
9. Adequacy of subgrade shall be determined solely by the City based on a contractor performed proof roll with a fully loaded tri axle dump truck.
10. The contractor shall submit a detailed paving plan to the City. The paving plan shall show the location and type of jointing to be used in the construction. The location and type of jointing shall meet the requirements of the IDOT Standard Specifications.
6. Hot–Mix Asphalt & Portland Cement Concrete shall be tested in accordance with the Standard Specifications. Testing shall be at the developer/contractor's expense and shall be performed by an independent laboratory. Test results shall be submitted to the City for review. All existing practice and procedures shall meet IDOT QA/QC requirements.
7. Mix designs shall be submitted to the City for approval prior to construction of pavement. Chemical modification of soils per IDOT Standard Specifications shall be performed at the direction of the City of Joliet and be completed to a minimum depth of 14 inches. The mix design shall be determined in accordance with IDOT design procedures for soil modification or stabilization. The proposed design and construction procedure shall be submitted to the City. Unsatisfactory soil modifications, as determined by the City, may require an increase in depth of the aggregate base or binder. Geogrid may be used in lieu of, or in conjunction with, the chemical modification of soils, as directed by the City.
8. Minor arterials, arterials, and major arterials cross sections shall be determined by the IDOT pavement design manual and be approved by the Director of Public Works.
9. All streets constructed, reconstructed, paved, or overlaid (including asphalt, chip seal, slurry seal, or similar process/material) by City forces, under City contract, or under permit shall be accompanied by a warranty bond for a period of three (3) years upon acceptance of the improvements.
10. All streets constructed, reconstructed, paved, or overlaid (including asphalt, chip seal, slurry seal, or similar process/material) by City forces, under City contract, or under permit shall not thereafter be cut or opened for a period of ten years for construction/reconstruction and five years for overlays. If a street is to be opened during the moratorium period, the applicant will be subject to additional paving requirements as determined by the Director of Public Works.
11. Curb flag shall be 9 inches minimum or match pavement thickness, whichever is greater.

PAVEMENT LEGEND

①	Hot–Mix Asphalt, Surface Course, IL–9.5, Mix "D", N50, 1.5"
②	Hot–Mix Asphalt, Binder Course, IL–19.0, N50, 2.5"
③	Hot–Mix Asphalt, Binder Course, IL–19.0, N50, 4"
④	Sub–Base Granular Material, Type B, CA–06, 10"
⑤	Sub–Base Granular Material, Type B, CA–06, 6"
⑥	Sub–Base Granular Material, Type B, CA–06, 4"
⑦	Combination Concrete Curb & Gutter, Type B6.12 / M3.12
⑧	Portland Cement Concrete Sidewalk, 5" Thick
⑨	Bituminous Material Prime Coat
⑩	Aggregate Prime Coat
⑪	Strip Reflective Crack Control Treatment (as required)
⑫	Longitudinal Joint Sealant (LJS)

HOT-MIX ASPHALT MIXTURE REQUIREMENTS	
MIXTURE TYPE	AIR VOIDS @ Ndes
FLEXIBLE DEPTH PAVEMENT	
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL-9.5mm); 1½"	4% @ 50 Gyr.
HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50; 2½"	4% @ 50 Gyr.
DRIVEWAYS	
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50 (IL-9.5mm)	4% @ 50 Gyr.

THE WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112 LBS/SQ. YD/IN.

THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE " SBS/SBR PG70-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE

SPECIAL PROVISIONS. FOR "PERCENT OF RAP" SEE IDOT DISTRICT ONE SPECIAL PROVISIONS.

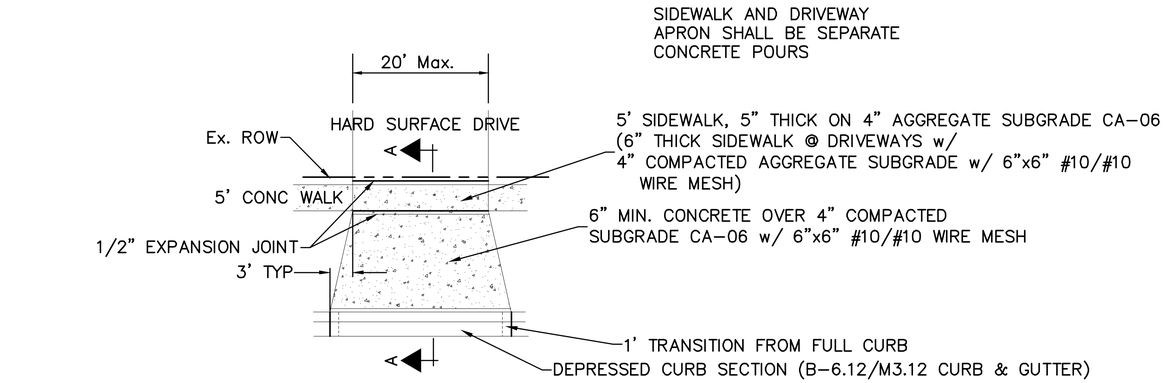
Public Works Construction Standards
Roadway & ROW Requirements

SCALE: NONE | DATE: March 2024 | SHEET 8 OF 39

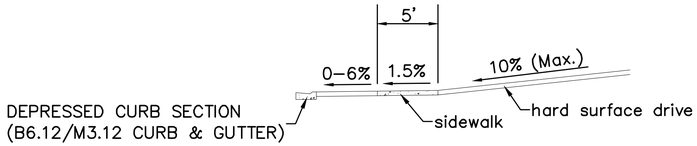
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P.C.C. DRIVEWAY APPROACH PLAN

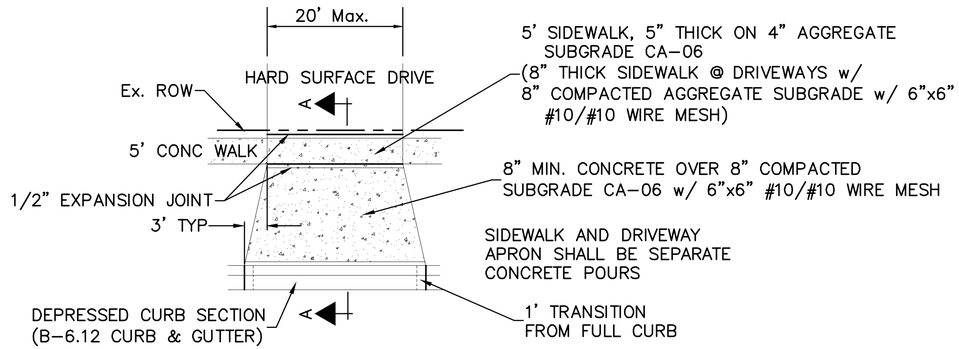


Section A-A

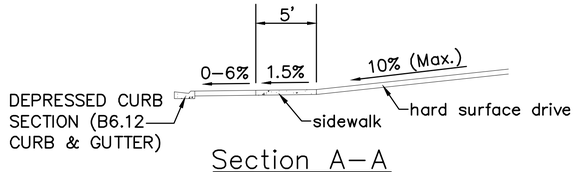
TYPICAL RESIDENTIAL PRIVATE DRIVE

Not to scale.

1. The maximum algebraic difference in grades for any 10 foot interval shall not exceed 8% crests, nor 10% for sags.
2. Frontage of lots shall drain to adjacent streets except with the prior approval of the Director of Public Works.
3. Concrete drives require control joints at a maximum of every 10 feet each way.
4. A maximum width at the ROW for driveways shall not exceed 20 feet.
5. Asphalt path transitions within the public right-of-way at commercial drives, private drives or approaches shall be accomplished with a 6' minimum length of concrete sidewalk transition (Increase length of concrete sidewalk transition as required to meet the 1:12 (8.33%) maximum slope requirement) so that the asphalt path meets the concrete sidewalk transition at a neat line perpendicular to the path alignment.



P.C.C. DRIVEWAY APPROACH PLAN

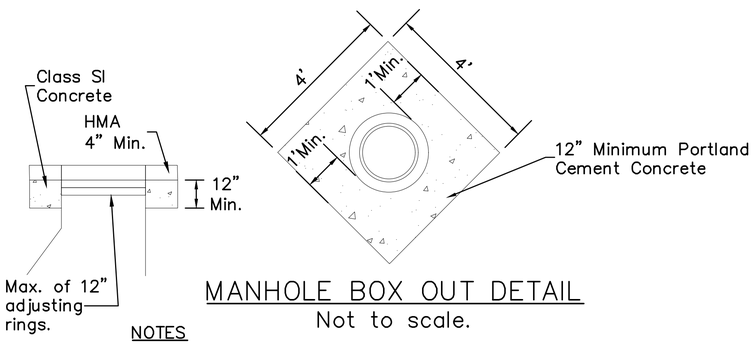


Section A-A

TYPICAL ALLEY & COMMERCIAL DRIVE

Not to scale.

1. The maximum algebraic difference in grades for any 10 foot interval shall not exceed 8% crests, nor 10% for sags.
2. Frontage of lots shall drain to adjacent streets except with the prior approval of the Director of Public Works.
3. Concrete drives require control joints at a maximum of every 10 feet each way.
4. A maximum width at the ROW for driveways shall not exceed 30 feet.
5. Asphalt path transitions within the public right-of-way at commercial drives, private drives or approaches shall be accomplished with a 6' minimum length of concrete sidewalk transition (Increase length of concrete sidewalk transition as required to meet the 1:12 (8.33%) maximum slope requirement) so that the asphalt path meets the concrete sidewalk transition at a neat line perpendicular to the path alignment.

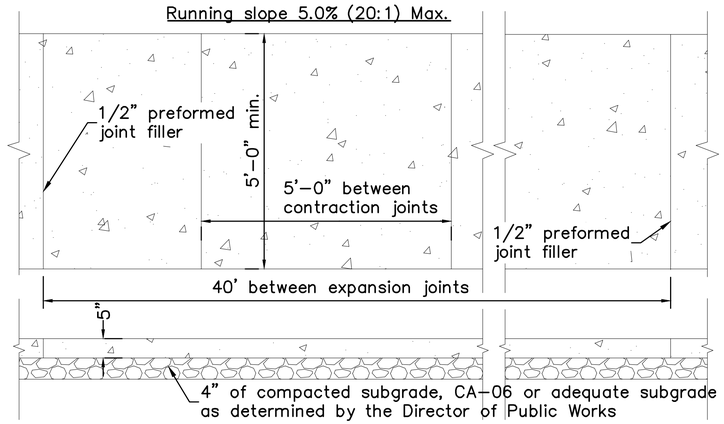


MANHOLE BOX OUT DETAIL

Not to scale.

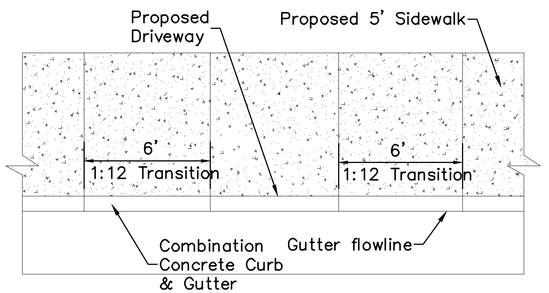
NOTES

1. For PCC Pavement: Additional #4 rebar and ½" fiber expansion material will be required as directed by the city.
2. Manhole frame or other structure frames shall be flush with top of concrete.



Typical Sidewalk Detail

Not to scale.



Proposed Carriage Walk Transition

Not to scale.

1. Sidewalk transitions within the public right-of-way at commercial drives, private drives or approaches shall be accomplished with a 6' minimum length of concrete sidewalk transition (Increase length of concrete sidewalk transition as required to meet the 1:12 (8.33%) maximum slope requirement) so that the sidewalk meets ADA requirements.

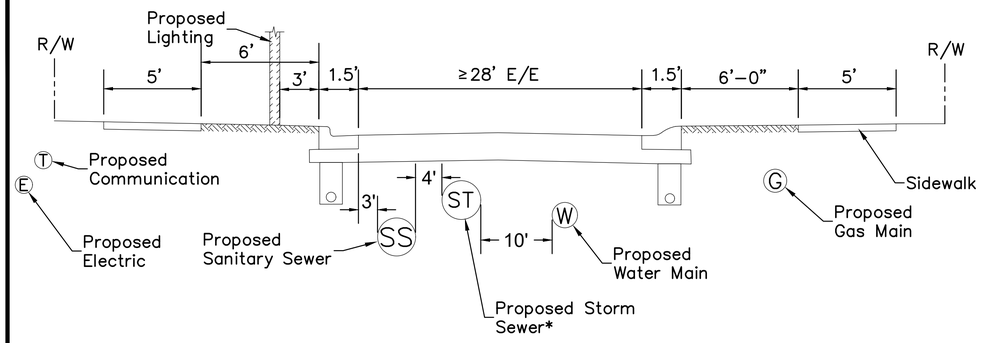
Public Works Construction Standards
Roadway & ROW Requirements

SCALE: NONE | DATE: March 2024 | SHEET 9 OF 39

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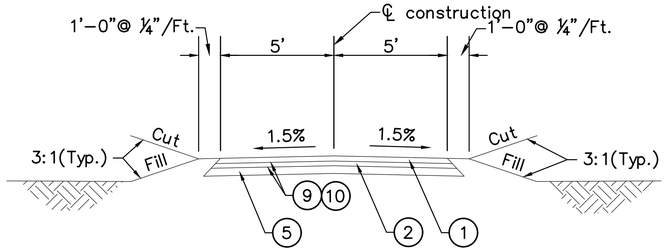
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* Storm sewer location for all streets to be determined by Director of Public Works

TYPICAL UTILITY SECTION

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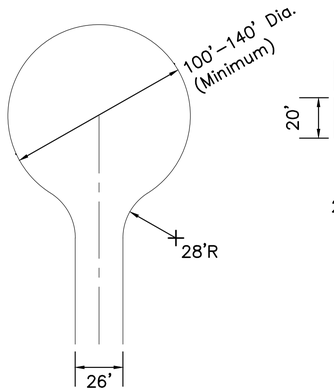
(See page 8 for pavement legend.)

TYPICAL MULTI–USE PATH CROSS SECTION

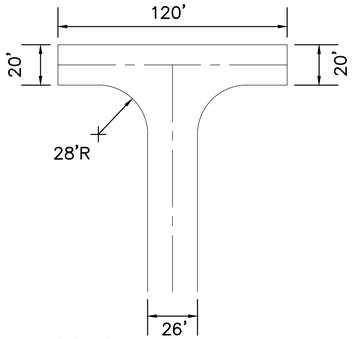
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NOTES

1. Cross slope shall be 1.8% maximum for crowns, transitions and super elevations.
2. See pavement legend for cross section requirements.



Cul–De–Sac



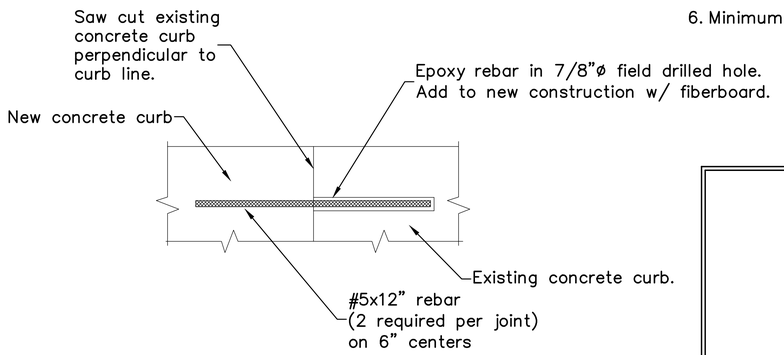
120–foot Hammerhead

Fire Department Access Roads Turnarounds

Not to scale.

Fire Department Access Roads:

1. Must have concrete, asphalt or approved driving surface.
2. Must be able to support at least 80,000 pounds.
3. Must be 20 feet wide, 26 feet wide where there are hydrants.
4. Must not exceed 10 percent grade.
5. Minimum turn radius is determined by the fire code official.
6. Minimum radius as determined by Subdivision Regulations.



Concrete Curb Replacement Connection Detail

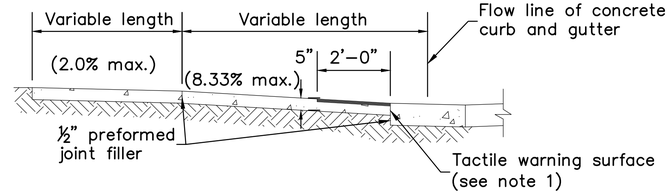
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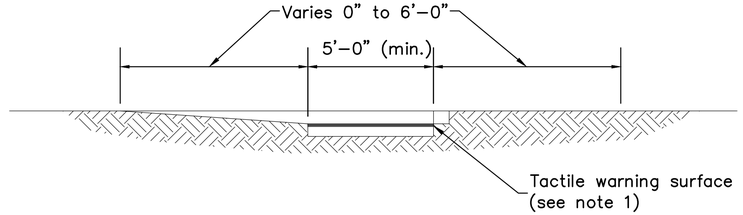
State Standards

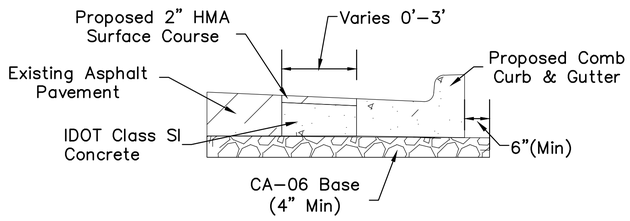
000001	Standard Symbols, Abbreviations and Patterns
424001	Perpendicular Curb Ramps For Sidewalks
602601	Precast Reinforced Concrete Flat Slab Top
604051	Frame & Grate Type 11
606001	Conc. Curb T–B & Comb Curb & Gutter
701501	Urban Lane Closure, 2L, 2W, Undivided
701801	Sidewalk, Corner or Crosswalk Closure
701901	Traffic Control Devices
B.L.R. 22	Typical Application of Traffic Control Devices for Construction on Rural Local Highways

Curb Ramp Construction

1. All curb ramps shall meet the requirements of the Americans with Disabilities Act, the most recent IDOT Standard Specifications, and the City of Joliet's most recent standards. Curb cuts required for handicap ramps shall be provided with initial curb construction.
2. Minimum width of curb ramp shall be 5 feet, not including flares. Maximum slope of ramps shall be 8.33% (12:1). Handicap ramps are to be located as shown on the plans or as directed by the City.
3. Surface texture of the ramp shall be that obtained by a course brooming transverse to the slope of the ramp.
4. Care shall be taken to assure a uniform grade on all ramps with no grade breaks.
5. Drainage structures shall not be placed in line with the ramps except where existing drainage structures are being utilized in the new construction. Location of the ramps shall take precedence over location of drainage structures.
6. The normal gutter line profile shall be maintained through the area of the ramp.
7. Expansion joint for the ramp shall be a maximum ½" wide. The top of the joint filler for all ramp types shall be flush with adjacent concrete.
8. Slope of ramp may be altered when field conditions warrant and when approved by the City.
9. Handicap ramps shall be installed per State Standards. A twenty–four (24") inch wide strip of re–usable cast iron plate detectable warning truncated domes with contrasting color (natural patina unfinished) shall be installed across the entire depression of the ramp (longitudinally). The cast iron plates shall be free from warps and have vent holes or anchors.







Curb & Gutter Removal and Replacment

Not to scale.

Notes

1. Contractor shall saw cut limits of asphalt to be removed for curb replacement.
2. Tack Coating shall be placed between concrete and asphalt interface.
3. If width of concrete patch in front of curb exceeds three (3') feet the contractor shall contact the City of Joliet.

REV: TYPICAL UTILITY SECTION 07/2025

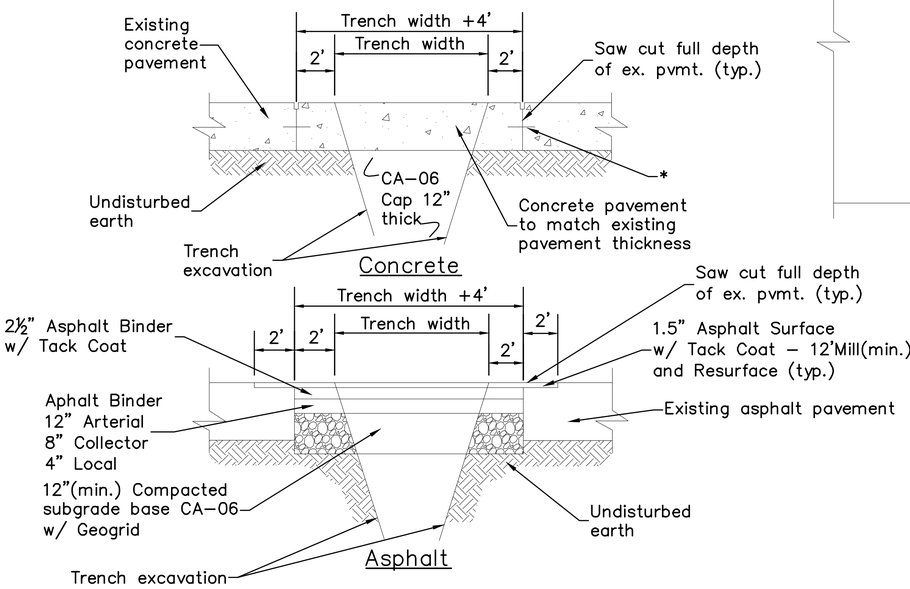
Public Works Construction Standards
Roadway & ROW Requirements

SCALE: NONE | DATE: March 2024 | SHEET 10 OF 42

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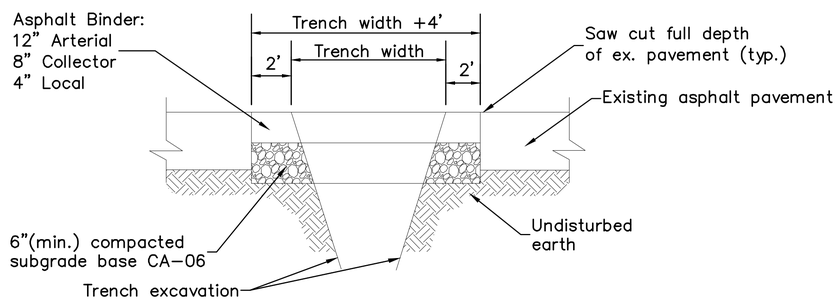
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Pavement Reconstruction Details

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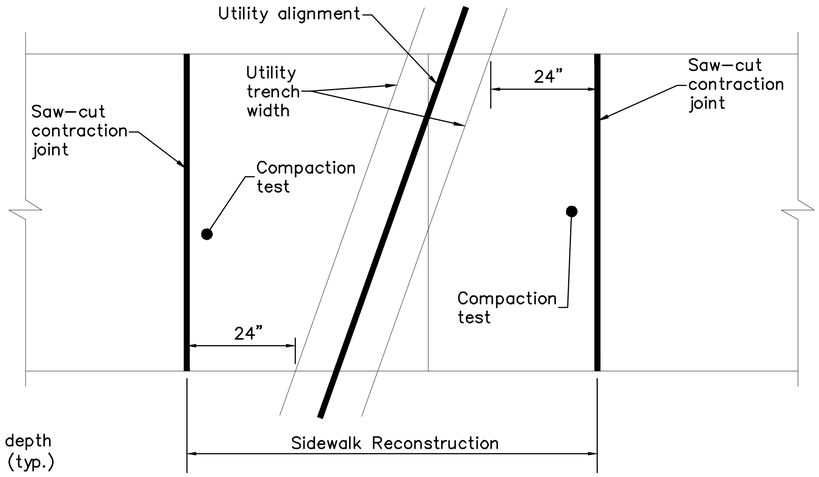


Temporary Pavement Patch Detail

Not to scale.

Notes:

1. Steel plate required over trench to open roadway to traffic. Pavement reconstruction or temporary asphalt patch to be placed within 48 hours.

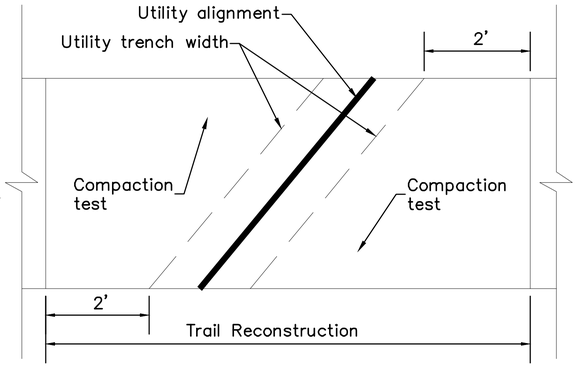


Existing Sidewalk Reconstruction

Not to scale.

Notes:

1. Full depth saw-cut nearest contraction joints outside of utility trench and remove existing sidewalk.
2. Backfill utility trench with compacted CA-06.
3. Aggregate subbase compaction adjacent to the utility trench shall not be less than 95% of the maximum dry density as determined by AASHTO T99. One compaction test on each side of the utility trench shall be performed.
4. Replace performed joint filler if removed during sidewalk removal.
5. If utility alignment follows the sidewalk joint take adjacent sidewalk panels out.
6. If utility trench encroaches within 12 inches of contraction joint take adjacent sidewalk panel out.
7. Replace sidewalk per typical sidewalk details making sure to match existing grades.

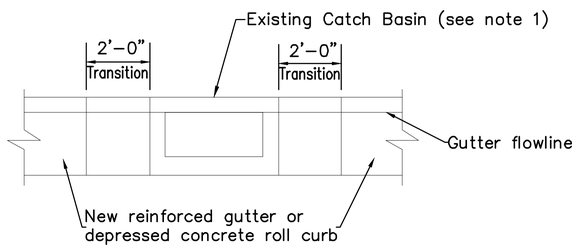


Existing Trail Reconstruction

Not to scale.

Notes:

1. Full depth saw-cut 2 feet on either side of the outer limits of the utility trench and remove pavement. Saw-cut should be made perpendicular to the trail's centerline..
2. Backfill utility trench with compacted CA-06.
3. Aggregate subbase compaction adjacent to the utility trench shall not be less than 95% of the maximum dry density as determined by AASHTO T99. One compaction test on each side of the utility trench shall be performed.
4. Replace asphalt per typical trail cross section detail making sure to match existing grades.



Existing Catch Basin Modification

Not to scale.

Notes:

1. Existing catch basin within limits of new approach that con not be relocated due to existing gutter flow, as approved by the Director of Public Works.
2. Contractor to verify existing Casting size to determine replacement.

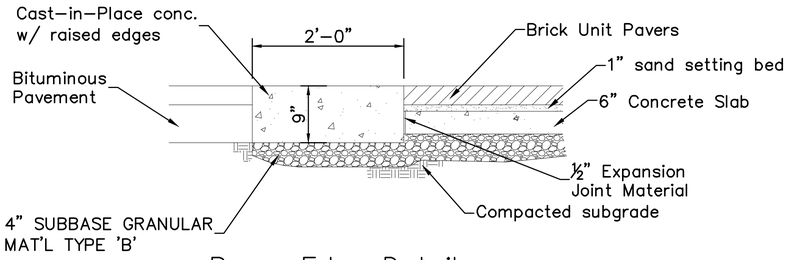
Public Works Construction Standards
Roadway & ROW Requirements

SCALE: NONE | DATE: March 2024 | SHEET 11 OF 39

CHECKED BY: GPR | DESIGNED BY: SWM | DRAWN BY: SWM

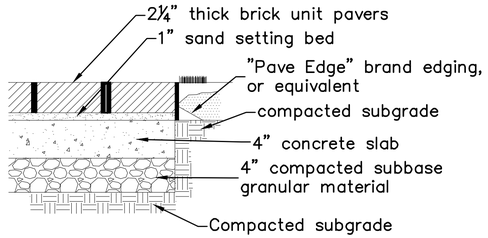
CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
(815)-724-4200

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Paver Edge Detail

Not to scale.



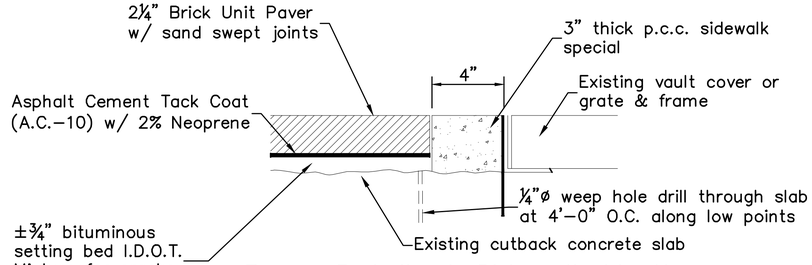
Paver Edge Detail

Not to scale.

NOTE:

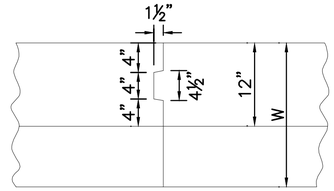
The contractor will set in the wall prior to concreting any box or tube furnished by the utility company to accommodate services to be extended from the street thru the wall onto the adjoining property.

The cost of this incidental work to be done included in unit price and for plain or mass wall. no deduction of concrete to be made for space occupied by such box or tube.

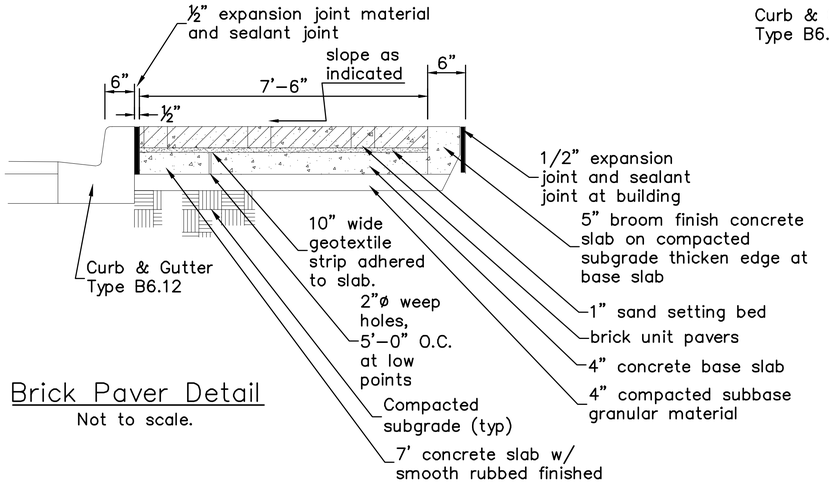


Paver Detail at Sidewalk Vault

Not to scale.

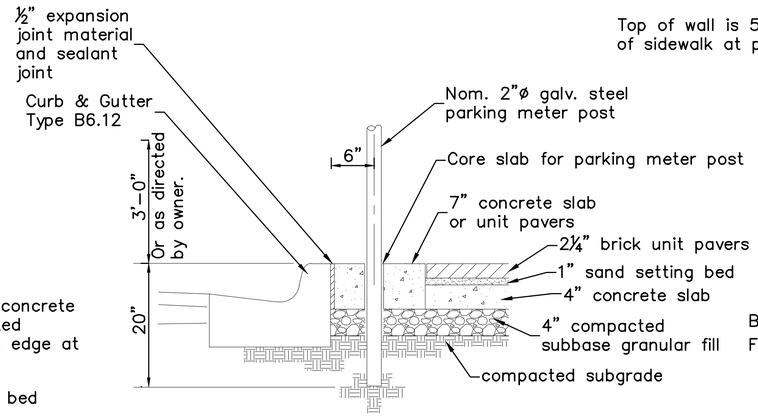


Construction key joint to be built whenever required by stoppage of work in curb wall or p.i. wall.



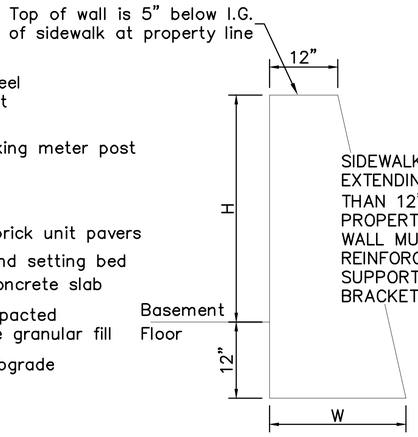
Brick Paver Detail

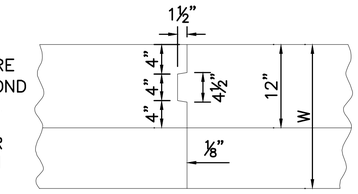
Not to scale.



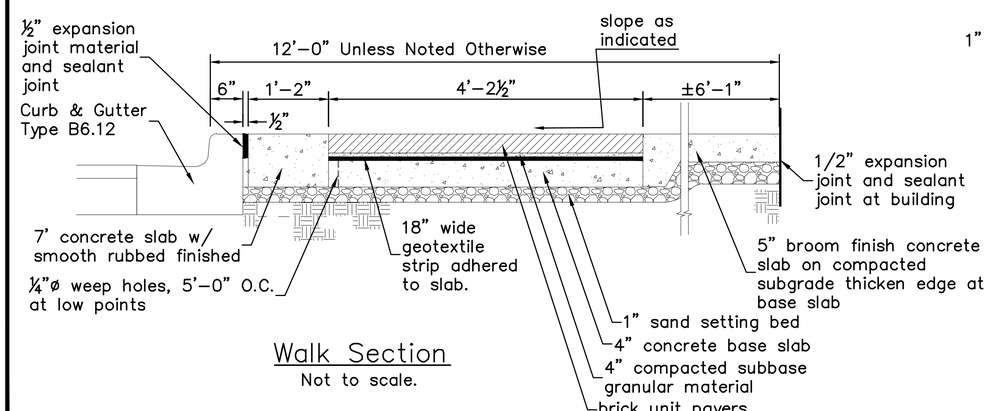
PARKING METER DETAIL

NO SCALE



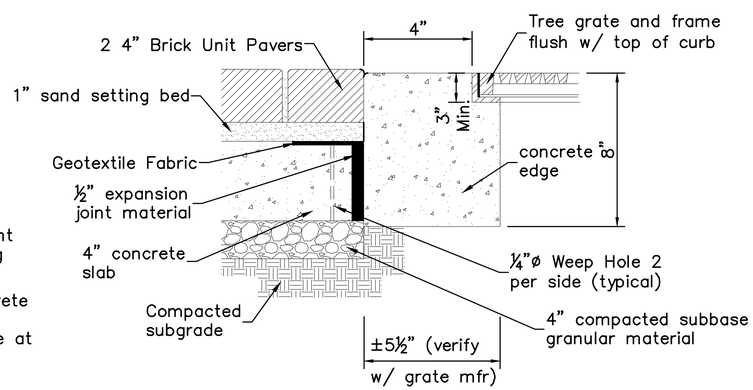


Expansion joint using 3 strips of bituminous felt to be constructed in walls of more than 50' continuous length and spaced not more than 50' apart.



Walk Section

Not to scale.



Tree Grate Detail

Not to scale.

Table for Property Line Wall		
N + 12	W	CU. YARDS PER LIN. FT.
3"	1.75	0.153
4"	2.00	0.222
5"	2.25	0.301
6"	2.50	0.388
7"	3.00	0.518
8"	3.50	0.667
9"	4.25	0.875
10"	5.00	1.111
11"	5.75	1.374
12"	6.50	1.667
13"	7.25	1.966
14"	8.00	2.333

Property Line Wall

Plain or mass walls 3' to +4' high built of Class "A" Concrete . Location as directed by engineer.

Retaining Wall at Vaulted Walk

Not to scale.

Public Works Construction Standards
Street Scape

SCALE: NONE | DATE: March 2024 | SHEET 12 OF 39

CHECKED BY: CPR | DESIGNED BY: SWM | DRAWN BY: SWM

CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
(815)-724-4200

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STORM SEWER GENERAL NOTES

1. Storm sewer pipe of other material or material not meeting these specifications shall require the prior written approval of the Director of Public Works.
2. The contractor shall submit information to the city showing conformance with these specifications upon request.
3. As–built drawings shall be submitted to the Director of Public Works for review and approval.
4. Pipe grade shall be such that, in general, a minimum of 2.0 feet of cover is maintained over the top of the pipe. Pipe cover less than the minimum may be allowed per manufacturer's specifications or recommendation and used only upon written acceptance from the Director of Public Works.
5. All storm sewer shall be in accordance with the Illinois Department of Transportation Standards and Specifications for Road and Bridge Construction in Illinois and City of Joliet Subdivision Regulations.
6. The minimum diameter storm sewer allowed in construction shall be 12 inches.

STORM SEWER REINFORCED CONCRETE PIPE

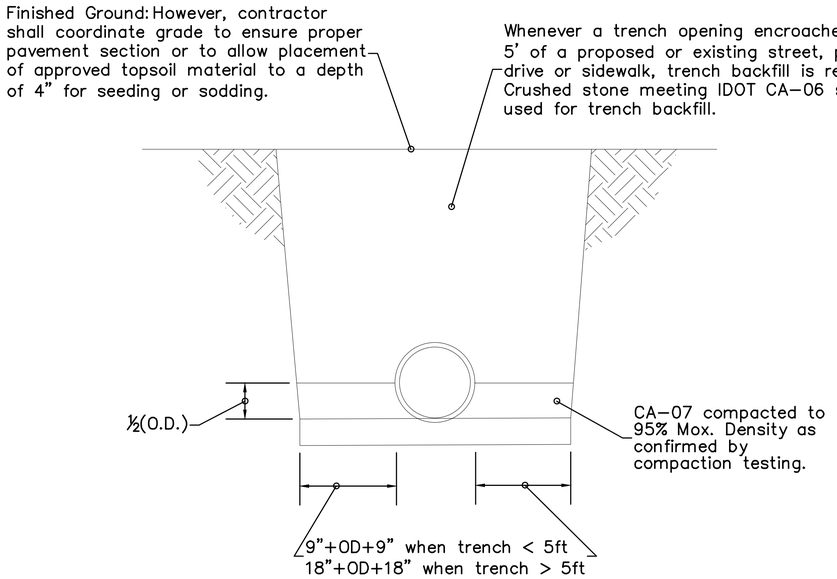
1. Reinforced Concrete Pipe Shall Be a minimum of Class IV.
2. Lift holes are not allowed for pipe less than 24 inches in diameter. A maximum of two lift holes are allowed for pipe 24 inches in diameter or larger. Lift holes shall be repaired in accordance to the IDOT Standard Specifications.
3. Fittings and specialties shall be in accordance with the IDOT specifications for the type of pipe being used.
4. Each pipe section shall be marked with date of manufacture, size and class of pipe, specification designation, manufacturer, and plant identification.
5. Pipe shall be furnished with a bell or groove on one end of a unit of pipe and a spigot or tongue on the adjacent end of the adjoining pipe. All joints shall have a groove on the spigot for placement of a rubber "o"–ring or profile gasket in accordance with ASTM C443. The gasket shall be a continuous ring which fits snugly into the annular space between the overlapping surfaces of the assembled pipe joint.
6. Inlets shall be provided so that surface water is not carried across or around any intersection, nor for a distance of more than three hundred (300) feet in the gutter unless calculations indicate that a greater distance is suitable.

STORM SEWER POLYVINYL CHLORIDE (PVC) PIPE

1. Pipe diameters of 12 inches through 15 inches shall meet or exceed all the requirements of ASTM D3034 SDR 26. Pipe diameters greater than 15 inches shall meet or exceed all requirements of ASTM F679 PS–115. The minimum wall thickness of pipe 12 inches through 15 inches in diameter shall conform to SDR–26 as specified in ASTM D3034. PVC pipe shall have a minimum pipe stiffness of 46 pounds per square inch for each diameter when measured at five percent deflection and tested in accordance with ASTM D2412.
2. Pipe joints shall have a bell wall, gasket groove, and spigot which are integral with the pipe. The assembly of joints shall be in accordance with the pipe manufacturer's recommendations and ASTM F477 & D3212. Gasket material shall be constructed of styrene butadiene or butyl rubber and meet the requirements of ASTM F477.
3. Each pipe section shall be marked with name of manufacturer, trademark or trade name, nominal pipe size, production/extrusion code, material and cell classification, and ASTM number.
4. Storm sewers less than 24 inch diameter and for depths greater than 18 feet and less than 25 feet,shall conform with SDR 21 in accordance with ASTM D2241.
5. Storm sewers greater than 24 inch diameter and greater than 25 feet in depth shall be approved by the Director of Public Works.

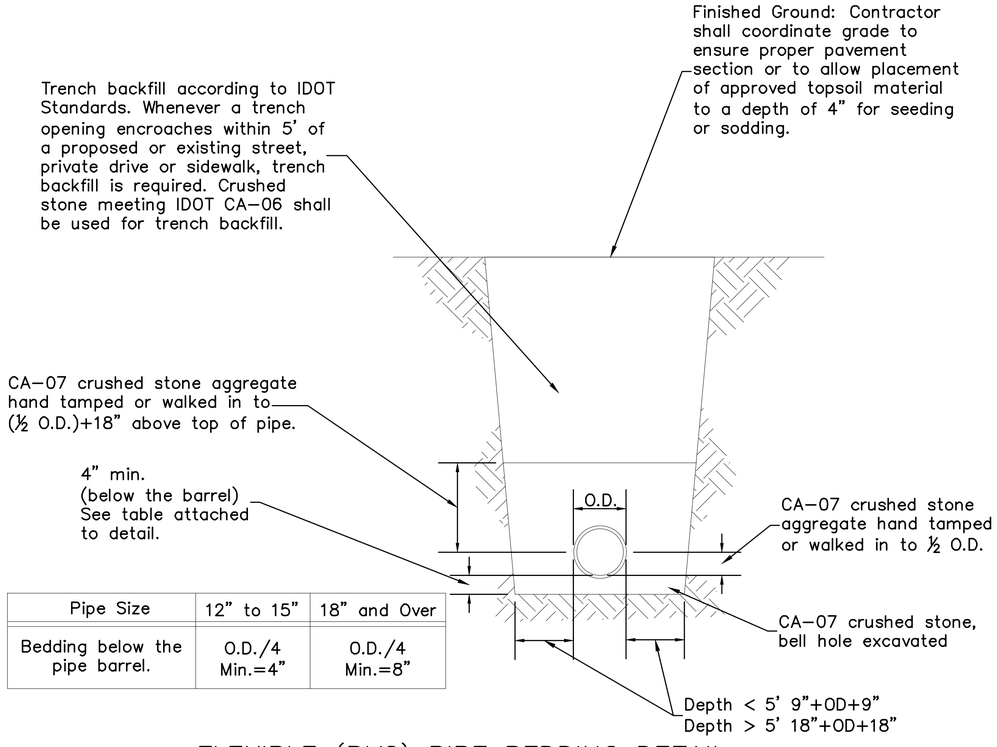
STORM SEWER DEFLECTION TESTING AND TELEVISING

1. Deflection testing ills required for all mainline flexible pipe and the Director of Public Works shall be given 48 hour written notice of deflection testing. An allowable deflection of 5 percent inside pipe diameter will be acceptable after all backfilling has been in place for 30 days. A "go–no–go" mandrel shall be used for the deflection test. A proving ring shall be provided for each mandrel. All pipe exceeding the allowable deflection shall be televised to determine the extent of replacement or re–rounding required. The reworked section shall be retested 30 days after completion. Contractor shall bear all testing and replacement costs. The "go–no–go" mandrel shall be manually pulled without the use of mechanical devices.
2. Televising is required for all pipe installations. Director of Public Works shall be given 48 hour written notice of televising. A camera equipped with remote control devices to adjust light intensity and 1,000 linear feet of sewer cable shall be provided. The camera shall transmit a continuous image to the television monitor as it is being pulled through pipe. The image shall be clear enough to enable the Director of Public Works representative and others viewing the monitor to easily evaluate the interior condition of the pipe. The camera shall stamp the video tape with linear footage and project number, and an audio voice–over shall be made during the inspection identifying problems. Contractor shall bear all televising costs.
3. The pipe shall be thoroughly cleaned before installing camera and commencing televising.
4. If any pipe and/or joint is found to be leaking in such a way as soil migration is likely in the sole judgment of the city, the contractor shall repair the portion of the work to the satisfaction and approval of the Director of Public Works.



RCP PIPE BEDDING DETAIL

Not to scale.



Pipe Size	12" to 15"	18" and Over
Bedding below the pipe barrel.	O.D./4 Min.=4"	O.D./4 Min.=8"

FLEXIBLE (PVC) PIPE BEDDING DETAIL

Not to scale

Public Works Construction Standards
Storm Sewer Requirements

SCALE: NONE | DATE: March 2024 | SHEET 13 OF 39

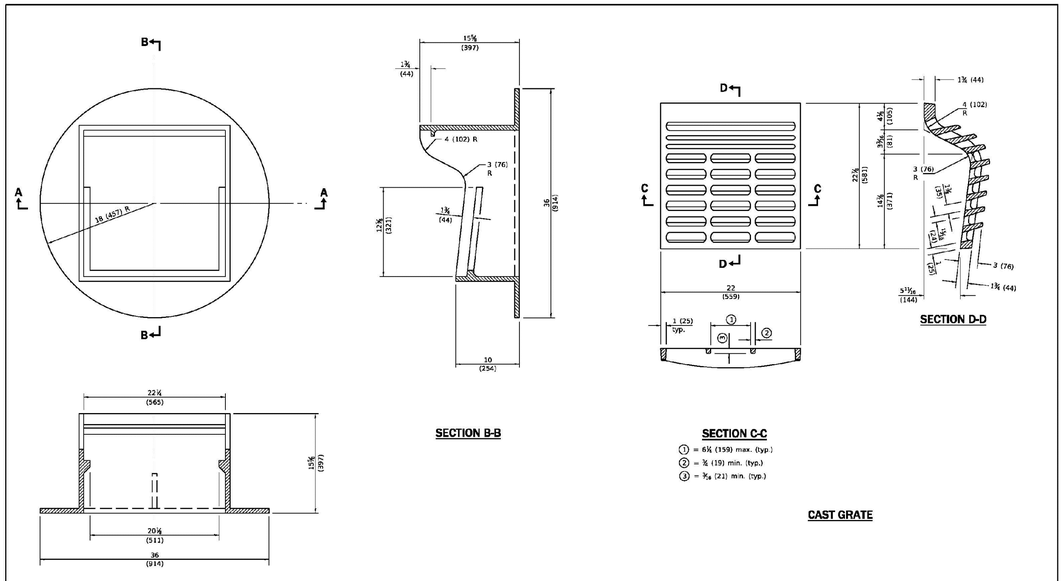
CHECKED BY: GPR | DESIGNED BY: SWM | DRAWN BY: SWM

CITY OF JOLIET DEPARTMENT OF PUBLIC WORKS
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STORM STRUCTURE GENERAL NOTES

1. All storm structures shall be in accordance with the Standard Specifications for Road and Bridge Construction in Illinois.
2. Mainline pipe shall not connect to catch basins. Catch basin connections occur at a manhole. Mainline pipe is any pipe downstream of a single catch basin or any pipe larger than or equal to 15 inches in diameter. Pipe less than or equal to 15 inches in diameter which drains one swale inlet may be connected to catch basins when the invert depth of such catch basin is not greater than shown on the catch basin detail. It is noted that on commercial sites no pipe is considered mainline pipe until it enters the public ROW.
3. The maximum allowable frame adjustment shall not exceed 12 inches.
4. All inlets and catch basins shall have a minimum of 3" allowed for riser rings or adjustment; manholes shall have a minimum of 4".
5. When a structure encroaches within 5' of a roadway, or at the discretion of the City of Joliet, it shall be backfilled with CA–06 crushed stone.
6. The following IDOT structures are allowable within the City of Joliet. Any modifications or adjustments shall be approved by the Director of Public Works.
   - 6.1. 602001 Catch Basin Type A
   - 6.2. 602011 Catch Basin Type C
   - 6.3. 602301 Inlet Type A
   - 6.4. 602306 Inlet Type B
   - 6.5. 602401 Manhole Type A 4' DIA.
   - 6.6. 602402 Manhole Type A 5' DIA.
   - 6.7. 602406 Manhole Type A 6' DIA.
   - 6.8. 602411 Manhole Type A 7' DIA.
   - 6.9. 602601 Precast Reinforced Concrete Flat Slab Top



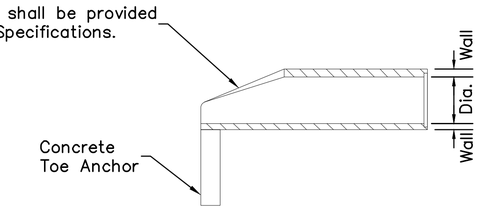
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT
DATE: 1-1-15

DATE	REVISIONS
1-1-15	Revised dimensions of frame and grate.
1-1-09	Switched units to English (metric).

FRAME AND GRATE TYPE 6

STANDARD 604026-03



NOTES

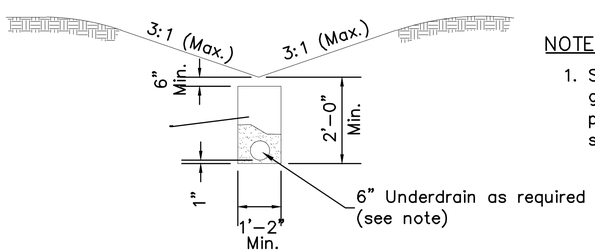
1. Precast reinforced concrete flared end sections shall be used at all exposed pipe ends. Concrete toe anchors shall be required. Plastic or metal end sections shall not be allowed unless approved by the Director of Public Works.
2. Revetment riprap in accordance with IDOT Standard Specifications set on geotextile fabric shall be required at inlet and outlet precast reinforced concrete flared end sections.

PRIVATE DRIVE CULVERT PIPE AND END SECTIONS

1. Except with prior written approval of the City of Joliet, culvert pipe, and end sections for new installations shall be reinforced concrete pipe in accordance with the IDOT Standard Specifications. Materials substitutions shall be approved by the Director of Public Works.

PRECAST CONCRETE PIPE END SECTION

Not to scale.



NOTES

1. Swales shall be constructed with a minimum 0.5% profile grade provided that a 6 inch diameter underdrain is provided for residential swales and commercial/industrial swales with less than 0.5% profile grade.

SWALE UNDERDRAIN DETAIL

Not to scale.

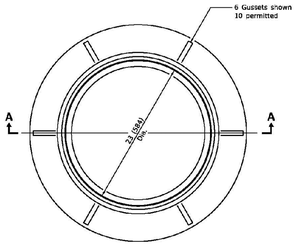
Public Works Construction Standards
Storm Sewer Requirements

SCALE: NONE
DATE: March 2024
SHEET 14 OF 39

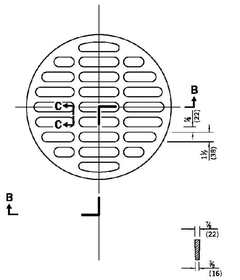
CHECKED BY: GPR
DESIGNED BY: SWM
DRAWN BY: SWM

CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
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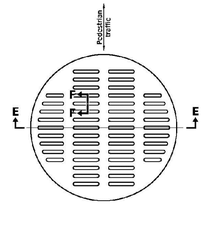
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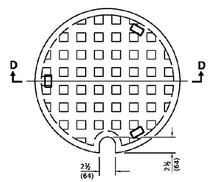
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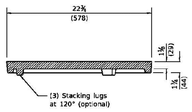
SECTION C-C



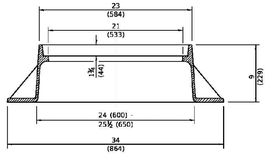
SECTION F-F



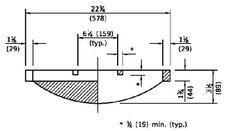
SECTION D-D



CAST CLOSED LID
Gray Iron Lid

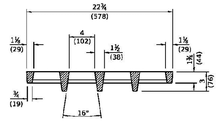


SECTION A-A
Gray Iron



SECTION B-B

CAST OPEN LID



SECTION E-E

ADA COMPLIANT
CAST OPEN LID

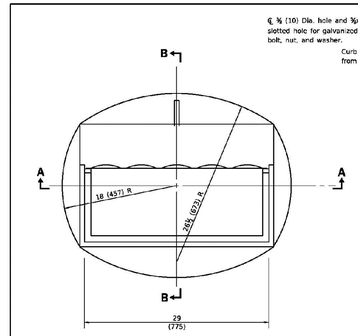
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
PASSED January 1, 2020
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2020
ENGINEER OF DESIGN AND ENVIRONMENT
DATE: 12/20/19

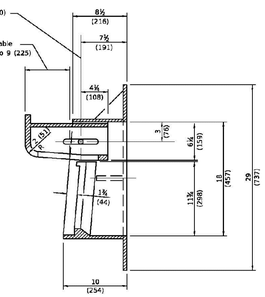
DATE	REVISIONS
1-1-20	Revised dimension in Section B-B of cast open lid.
1-1-15	Revised dimensioning of frame. Added ADA compliant open lid.
1-1-09	Switched units to English (metric)

FRAME AND LIDS TYPE 1

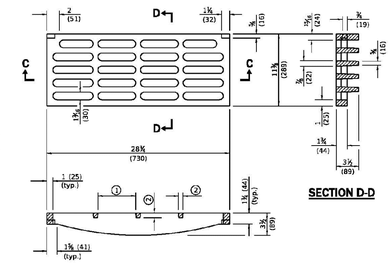
STANDARD 604001-05



CAST FRAME



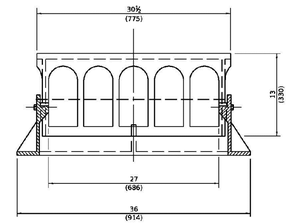
SECTION B-B



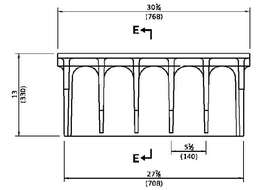
SECTION C-C
① = 6¼ (159) max. (typ.)
② = ⅜ (19) min. (typ.)

SECTION D-D

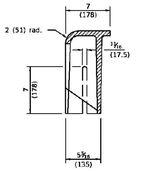
CAST GRATE



SECTION A-A



ALTERNATE CURB BOX



SECTION E-E

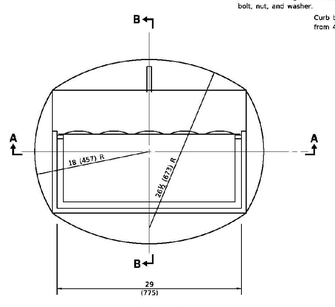
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Illinois Department of Transportation
PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT
DATE: 12/20/19

DATE	REVISIONS
1-1-15	Revised dimensions of frame and alternate curb box.
4-1-09	Switched units to English (metric).

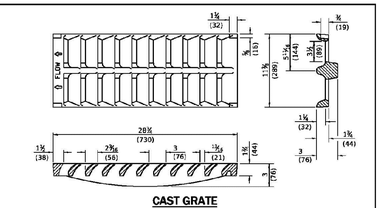
FRAME AND GRATE TYPE 11

STANDARD 604051-04

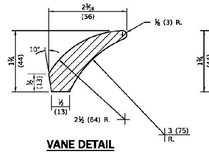


CAST FRAME

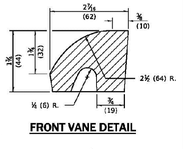
SECTION B-B



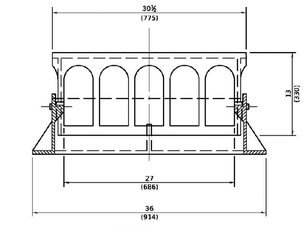
CAST GRATE



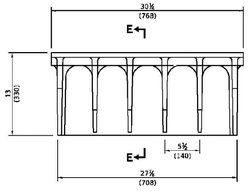
VANE DETAIL



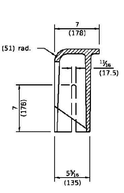
FRONT VANE DETAIL



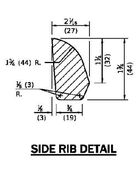
SECTION A-A



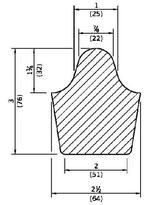
ALTERNATE CURB BOX



SECTION E-E



SIDE RIB DETAIL



MIDDLE RIB DETAIL

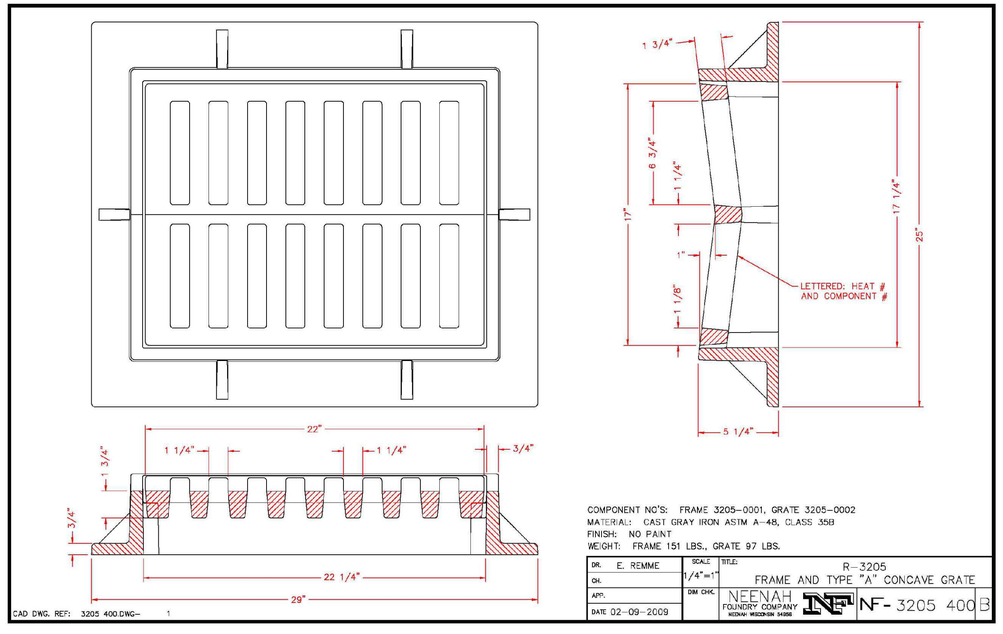
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
PASSED January 1, 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT
DATE: 12/20/19

DATE	REVISIONS
1-1-15	Revised dimensions of frame and alternate curb box.
1-1-09	Switched units to English (metric).

FRAME AND GRATE TYPE 11V

STANDARD 604056-04



COMPONENT NO'S: FRAME 3205-0001, GRATE 3205-0002
MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
FINISH: NO PAINT
WEIGHT: FRAME 151 LBS., GRATE 97 LBS.

DR. E. REMME	SCALE 1/4"=1'	TITLE: R-3205 FRAME AND TYPE "A" CONCAVE GRATE	
CH.	DIM CHK.	NEENAH FOUNDRY COMPANY NEENAH, WISCONSIN 54956	NF- 3205 400B
APP.			
DATE 02-09-2009			

CAD DWG. REF: 3205 400.DWG- 1

Public Works Construction Standards
Storm Sewer Requirements

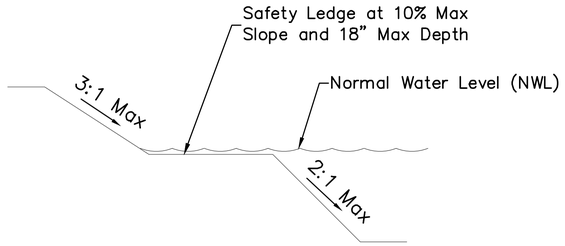
SCALE: NONE
DATE: March 2024
SHEET 15 OF 39

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DESIGNED BY: SWM
DRAWN BY: SWM

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CITY OF JOLIET ILLINOIS CROSSROADS OF AMERICA

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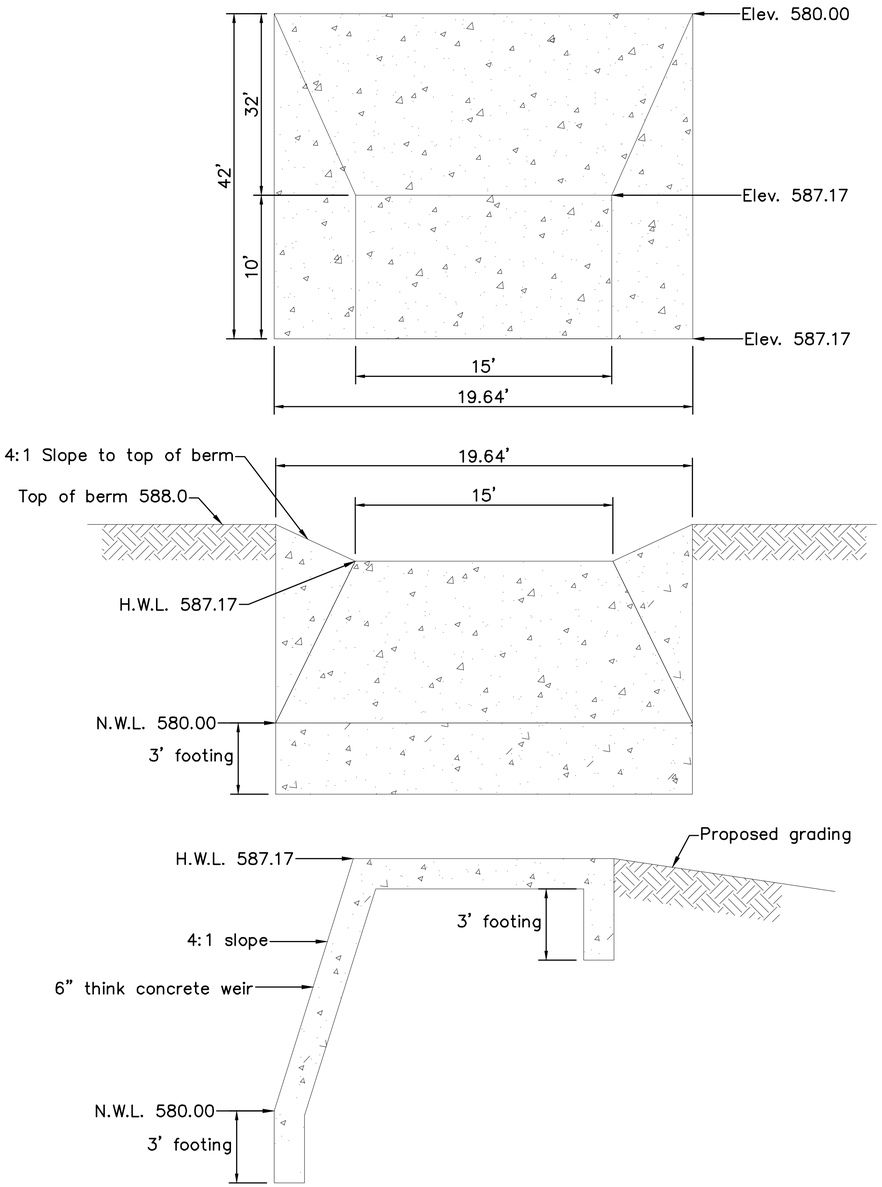


Detention Pond & Safety Ledge

Not to scale.

NOTES

1. Dry bottom basins shall be subject to the maximum of 3:1 slope above the basin floor. The longitudinal slope shall be a minimum of 2% in order to prevent wet areas. The transverse grade shall be a minimum of 2%.
2. Developments that will be constructing basement shall provide a two (2') foot free board from the bottom of the basement to the NWL.
3. The City of Joliet reserves the right to approve alternate detention pond designs.



Detention Pond Overflow Weir

Not to scale.

NOTES

1. An emergency overflow weir shall be provided at an elevation above the High Water Lever (HWL), and not less than six (6") inches below the top of berm.
2. The weir shall be armored with concrete or turfmat from the top of the berm to the outside of the toe of slope.
3. The overflow weir shall be wide enough to convey the overflow event but have a maximum depth no greater than three (3') feet.
4. Weirs adjacent to residential properties or public streets shall be incorporated in the landscape design for the facility and shall be designed to minimize negative visual impacts.
5. The City of Joliet reserves the right to approve alternate overflow weir designs.

Public Works Construction Standards
Storm Sewer Requirements

SCALE: NONE | DATE: March 2024 | SHEET 16 OF 39

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SOLAR FARM INSTALLATION REQUIREMENTS

1. Solar Farm

Conditional use permits for solar farms shall have no time limit, unless: otherwise limited as part of the City Council approval, the use is abandoned as specified in Section 5 (Abandonment), or the permit is revoked.

2. Application

a. A threatened and endangered species consultation (EcoCAT) from the Illinois Department of Natural Resources is required at the time of conditional use permit application for any site that is two (2) acres or greater in size and currently in agricultural use or undeveloped.

b. A site plan shall be provided showing all improvements (including civil drawings), including structures, fencing, power lines (above and below ground), lighting, field tiles, and landscaping, at a detail sufficient to understand the location, height, appearance, and area.

c. A detail of all truck routes shall be supplied for review. Accompany the truck routes is an existing conditions video showing all distressing in pavement. Any changes in distress at the completion of the solar projects shall be address by the developer. Repair methods are at the discretion of the Director of Public Works.

3. Site design

a. Solar panels, structures, and electrical equipment, excluding fences and power lines for interconnection, shall be erected no less than fifty (50) feet from any lot line and no less than three hundred (300) feet from any residence, other than a residence on the same ownership parcel.

b. No structures, excluding power lines for interconnection, may exceed fifteen (15) feet in height. Power lines shall be placed underground to the maximum extent possible.

c. Lighting must comply with the City of Joliet Lighting Ordinance. Solar panels shall have a surface that minimizes glare that shall be approved by the Director of Public Works.

d. The facility shall be situated as to minimize impacts to woodlands, savannas, wetlands, drainage tiles, and encroachment into flood plains. All site development shall comply with the Stormwater Management Ordinance. Any damaged drainage tiles shall be repaired.

e. In order prevent erosion, manage run-off, and provide ecological benefit, the facility shall be planted with “low-profile” native prairie species, using a mix appropriate for the region and soil conditions.

f. Fencing shall be provided in compliance with the National Electrical Code, as applicable. The use of barbed wire must be approved by the City’s Planning Department and Director of Public Works.

g. Any part of the facility that is within five hundred (500) feet of a residence, other than a residence on the same ownership parcel, or road right-of-way, shall be landscaped with an arrangement of native shrubs, subject to approval by the City, unless the facility is screened from view by existing vegetation.

h. Prior to construction, the operator shall prepare a landscape monitoring and maintenance plan to

SOLAR FARM INSTALLATION REQUIREMENTS

ensure the establishment and continued maintenance of the native prairie species, all installed landscape screening, and all existing vegetation that provides required landscape screening.

i. Prior to construction, the operator shall enter into an Agricultural Impact Mitigation Agreement with the Illinois Department of Agriculture (IDOA), as required by that department.

4. Safety

a. Prior to construction, the operator shall prepare an emergency management plan acceptable to the City and the local fire district and shall be responsible for training of emergency personnel, as needed.

b. A sign shall be posted providing the name of the operator and a phone number to be used in case of an on-site emergency.

c. Access shall be granted, provided appropriate advance notice, for periodic inspection of the site by the City or the local fire district.

d. Damaged solar panels shall be removed, repaired, or replaced within sixty (60) days of the damage. The ground shall remain free of debris from damaged solar panels at all times.

5. Abandonment

a. The solar farm shall be considered abandoned if the operator fails to pay rent as specified in the Agricultural Impact Mitigation Agreement, or it ceases to generate electricity for a period of twelve (12) consecutive months. Reports of electrical power production shall be provided to the City upon request. An abandoned solar farm must be decommissioned and removed within one hundred eighty (180) days from the time it is deemed abandoned. The operator may appeal in writing to the Planning Department for an extension of time in order to remove the solar farm or to bring the solar farm back into operation.

6. Decommissioning

Decommissioning and removal of the solar farm shall be the responsibility of the operator upon abandonment or revocation of the conditional use permit. All operators, regardless of Agricultural Impact Mitigation Agreement, shall comply with the following:

a. Prior to construction, the operator shall prepare a decommissioning plan which shows the final site conditions after the solar farm has been removed from the property. Decommissioning plans shall require removal of all solar panels, electrical equipment, poles, piles, foundations, and conduits (above and below ground). Access roads, fencing, groundcover, and landscaping may remain only if it can be shown to be consistent with the future use of the property.

b. Prior to construction, the operator shall submit an engineer’s estimate of cost for decommissioning the solar farm and restoring the site in accordance with the approved decommissioning plan. Upon review and approval by the Director of Public Works of the estimate, the operator shall obtain a bond, letter of credit, or other form of surety acceptable to the City to be held by the Department of Public Works in the amount of one hundred fifty percent (150%) of the estimate, so as to cover the cost of decommissioning as well as inflation cost in future years. The value of the surety shall not be reduced based on the salvage value of any materials or equipment. If the operator has a separate surety under the terms of an AIMA, the sum total of all sureties are not required to exceed

Public Works Construction Standards
Solar Farm Requirements

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SOLAR FARM INSTALLATION REQUIREMENTS

one hundred fifty percent (150%) of the estimate.

c. During the operation of the facility, a new engineer's estimate of cost for decommissioning shall be submitted every five (5) years to the Department of Public Works. Upon approval of the estimated costs by the Director of Public Works, a revised surety shall be provided to the Department of Public Works in the amount of one hundred fifty percent (150%) of the new estimate. The value of the surety shall not be reduced based on the salvage value of any materials or equipment. If the operator has a separate surety under the terms of an AIMA, the sum total of all sureties are not required to exceed one hundred fifty percent (150%) of the estimate.

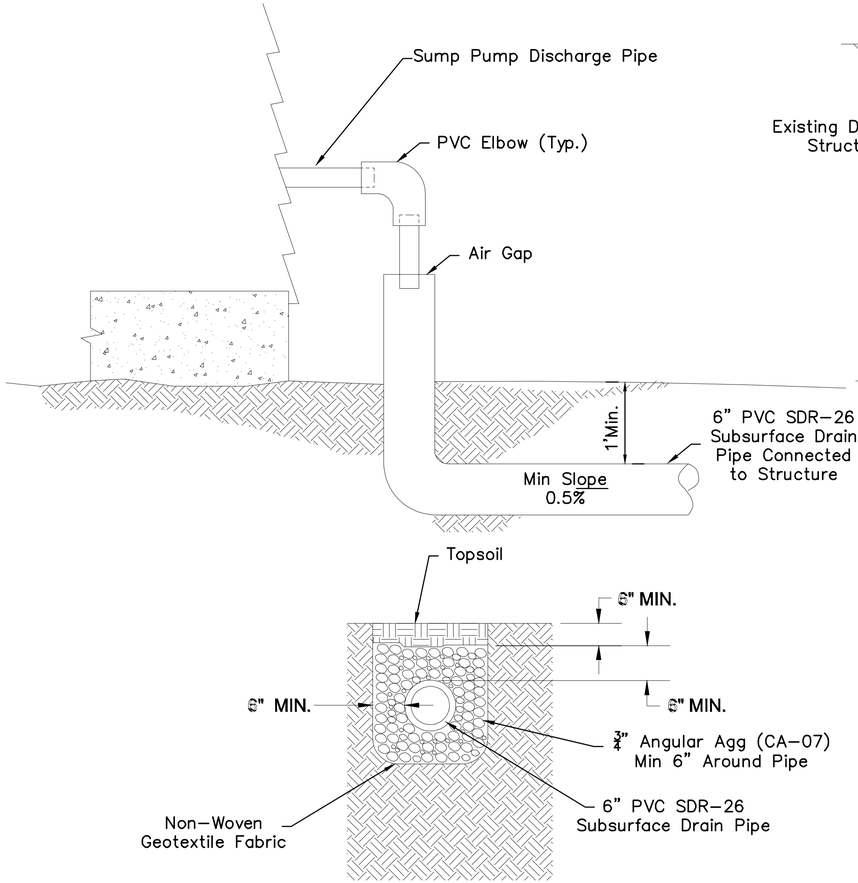
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Public Works Construction Standards
Solar Farm Requirements

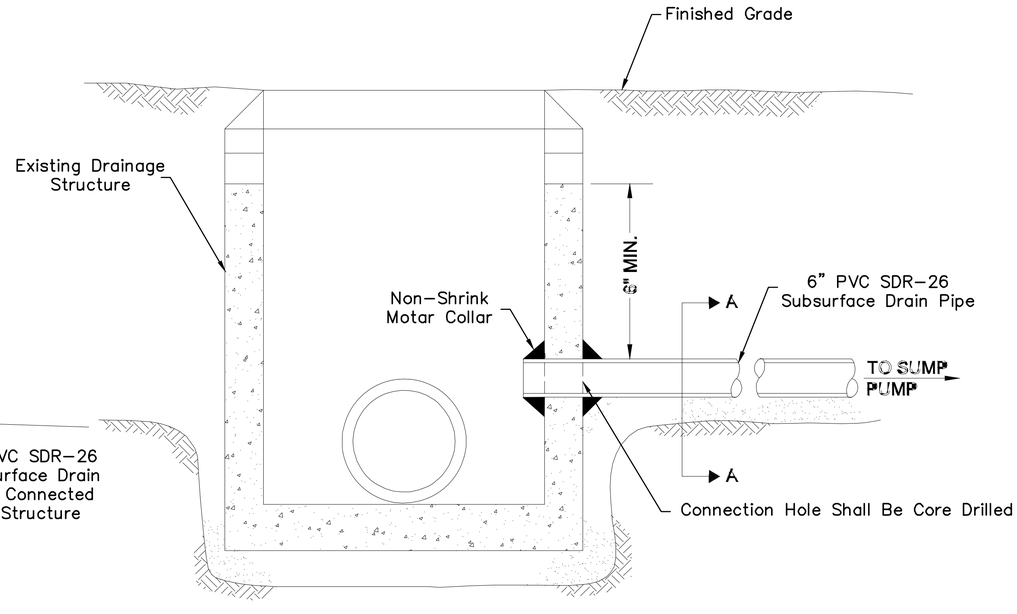
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SECTION A-A



NOTE:

1. Subsurface Drain Pipe Shall Be 6" PVC SDR-26
2. Perforated 6" SDR-26 Shall Be Approved By City Prior To Installation

Sump Pump Connection Detail

Not to scale.

Public Works Construction Standards
Sump Pump Discharge

SCALE: NONE
DATE: March 2024
SHEET 19 OF 39

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EROSION CONTROL NOTES

GENERAL:

Take measures to control erosion and sedimentation to assure that sediment is not transported from the site by storm events. Practices such as silt traps or filters shall be installed prior to land disturbing activities. New drainage swales shall be seeded and/or sodded, or other protective practices applied, immediately following construction. All practices shall be maintained to remove sediment from runoff leaving the site as long as unstabilized soil conditions exist.

After land disturbing activities cease and the soil is stabilized, temporary erosion control measures may be eliminated if their purposes have been fulfilled. Any disturbed soil resulting from removal of such practices shall be stabilized by approved methods.

Dispose properly all waste and unused building materials including, but not limited to, garbage, debris, cleaning wastes, water, toxic materials, and hazardous substances. Do not allow substances to be carried by runoff into a receiving channel or storm sewer system.

Clean public or private roadways daily and after major storms using acceptable methods to remove any accumulated sediment. The developer's contractors are responsible for supervision of the construction activity within the development and shall take necessary actions to remove sediment from the streets.

For construction sequence, maintenance, and other soil erosion requirements, see specifications for site clearing, slope protection, erosion control, landscaping and seeding.

Erosion and sediment control practices must adhere to, or exceed those shown on the erosion control plan and shall be in accordance with the Illinois Urban Manual, Standard Specifications for Road and Bridge Construction, and as directed by the City of Joliet.

SURFACE STABILIZATION:

Cut slopes which are to be topsoiled should be scarified to a minimum depth of 4 inches prior to placement of topsoil. Install erosion control blankets on all slopes of 3 (horizontal) to 1 (vertical).

Stabilize all disturbed ground left inactive for fifteen or more days by seeding, sodding, mulching, or by other equivalent erosion control practices. See the landscape plan for permanent ground cover requirements adjacent to the building and parking areas.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT PAD:

Construct the temporary gravel drive using 6 inches IDOT CA–06 stone over a stable foundation. Geotextile fabric may be used under wet conditions or for soils within a high seasonal water table to provide greater bearing strength. Grade for positive drainage.

SODDING:

Do not install sod on hot dry soil, frozen soil, compacted clay, loose sand or gravel, or pesticide treated soil. Ideal sodding time is May 1 – June 1, or September 1 – October 20, although it can be installed as early as March 15, if available and temperatures are above 32° Fahrenheit, or June 1 – September 1 if irrigated.

Install sod after other erosion control practices have been completed. Break up compacted soils sufficiently to crate a favorable root depth of 6–8 inches, using a chisel, plow, disk, harrow, or rake.

Apply topsoil if the site is otherwise unsuitable for establishing vegetation, shape, smooth, and firm the soil surface.

Have the soil in the sod bed tested to determine its pH and nutrient level. If the pH is too acidic for the grass sod to be installed, apply lime according to test results or at the rate recommended by the sod supplier.

Fertilize as recommended by the soil test. If the testing was not done, consider applying 400–600 lbs./acre of 12–12–12 analysis fertilizer, or equivalent fertilizer, as recommended by the soil test. Work the fertilizer, or equivalent fertilizer, as recommended by the soil test. Work the fertilizer into the soil 2–4 inches deep.

TREE CONSERVATION/PROTECTION:

Protect trees from construction equipment by fencing off an area equivalent to the tree's crown with temporary construction safety fence. If a fence cannot be erected, cushion the rooting area with 6 inches of wood chips, or wood or brick paths.

Create traffic patterns such as to keep soil compaction to a minimum. Store supplies and equipment away from protected tree areas. Aerate soil where compaction has been excessive.

When clearing adjacent to protect trees, use equipment such as a brush cutter or rotary ax or cut by hand.

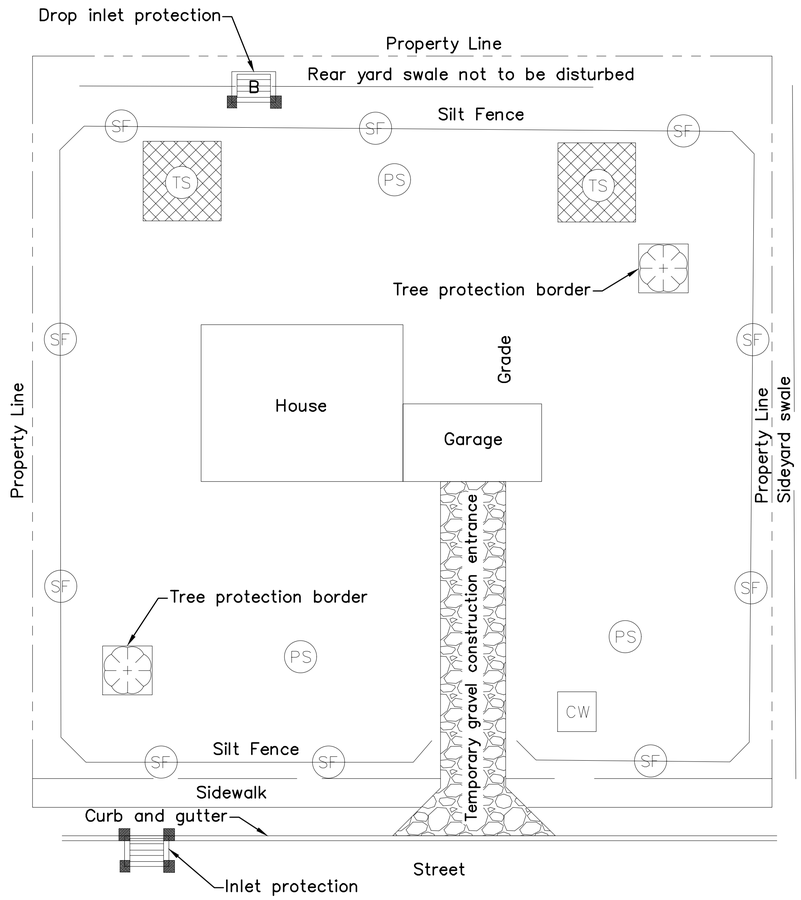
Minimize changes in the drainage pattern. Avoid putting fill over the root system.

Prune low hanging limbs that could be otherwise broken off by equipment.

Repair wounds by removing damaged bark and wood tissue (do not use tree paint).

EROSION CONTROL BLANKETS:

Use a minimum 0.091–inch diameter steel wire "U" shape with legs 6 inches in length with 1 inch crown.



Sample Erosion Control Site Plan

Not to scale.

(For construction of typical single family dwellings.)

Notes:

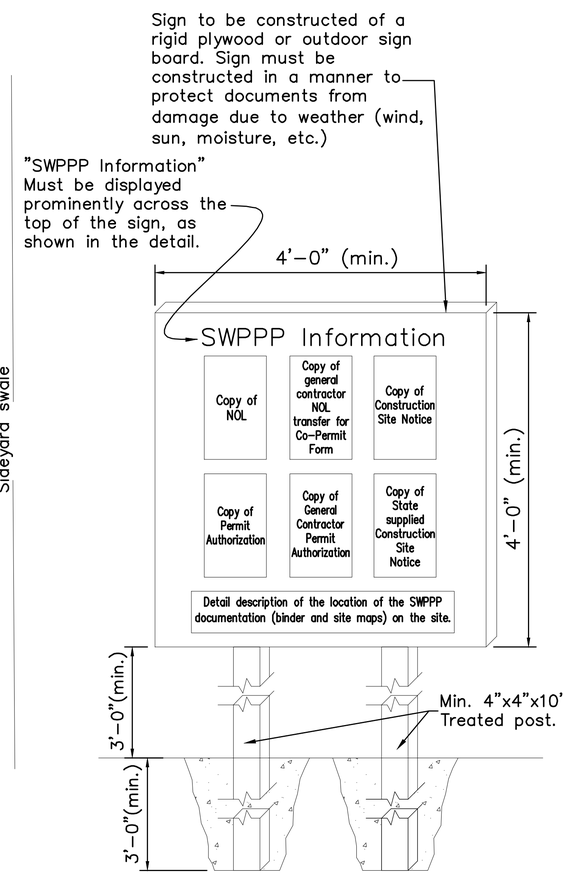
1. It's is the responsibility of the property owner and contractor to comply with state laws and local and county ordinances regarding construction site erosion and sediment control.
2. This plan is only a sample plan and is not intended to be all inclusive or address every situation. Additional or modified practices may be required on some sites.
3. Erosion or sediment control measures must be functional and maintained throughout construction.
4. Maintain position drainage away from the structure(s).
5. If permanent drive having prohibited access is constructed provide separate temporary gravel entrance for access.

(SF) Silt Fence

(PS) Permanent Seeding

(CW) Concrete Washout

(TS) Topsoil Stockpile



SWPPP Information Sign

Not to scale.

Notes:

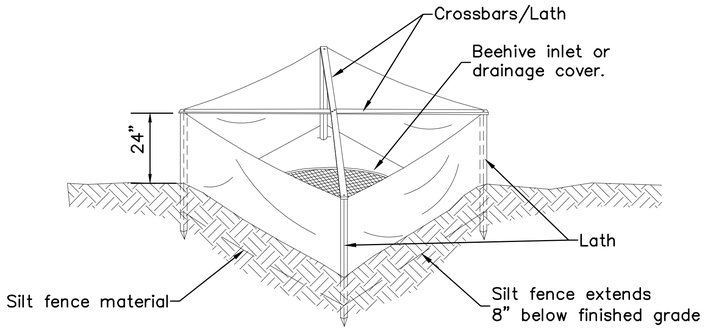
1. The SWPPP information sign must be located near the construction entrance of this site, such that it is accessible and viewable by the general public, but not obstructing views as to cause a safety hazard.
2. All posted documents must be maintained in a clearly readable condition at all times throughout construction and until the notice–of–termination (NOT) is filed for the permit.
3. Contractor shall post other storm water and/or erosion and sediment control related permits on the sign as required.
4. Sign shall be located outside of the public right–of–way and easements unless approved by the Director of Public Works.

Public Works Construction Standards
Erosion Control Requirements

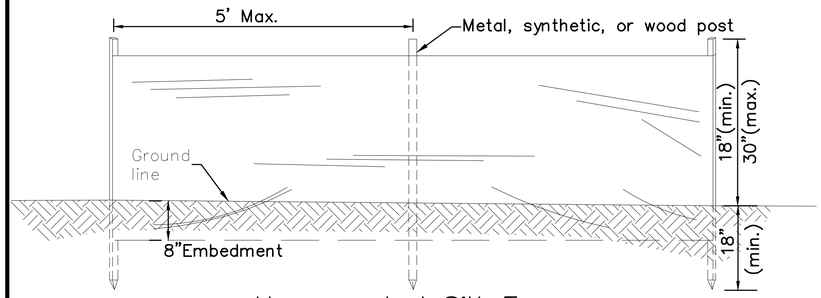
SCALE: NONE	DATE: March 2024	SHEET 20 OF 39
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Silt Fence Inlet Protection



Unsupported Silt Fence

Notes:

Installation:

Silt fence is not recommended for use as a diversion and should not be used across a stream, channel, ditch, swale, or anywhere that concentrated flow is anticipated.

Layout the location of the silt fence so that it is parallel to the contour of the slope and at least 10 feet beyond the toe of the slope to provide a sediment storage area. Turn the ends of the fence up slope such that the point of contact between the ground and the bottom of the fence end terminates at a higher elevation than the top of the fence at its lowest point.

Along the entire fence line, dig an 8–inch deep flat bottomed or V–shaped trench. Place fence according to manufacture's recommendations.

Maintenance:

Inspect the silt fence weekly and after each storm event (0.5").

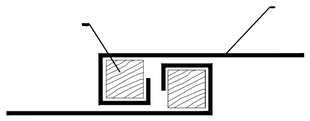
If the fabric tears, starts to decompose, or in any way becomes ineffective, replace the affected portion immediately.

Remove deposited sediment when it reaches half the height of the fence at its lowest point or is causing the fabric to bulge. Take care to avoid undermining the fence during cleanout.

After the contributing drainage area has been stabilized, remove the fence and sediment deposits. Bring the disturbed area to grade and stabilize.

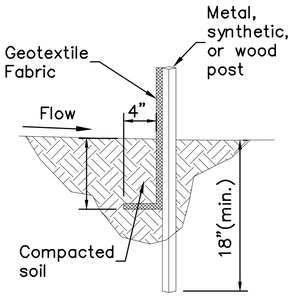
Silt Fence (Sediment Fence)

Not to scale.

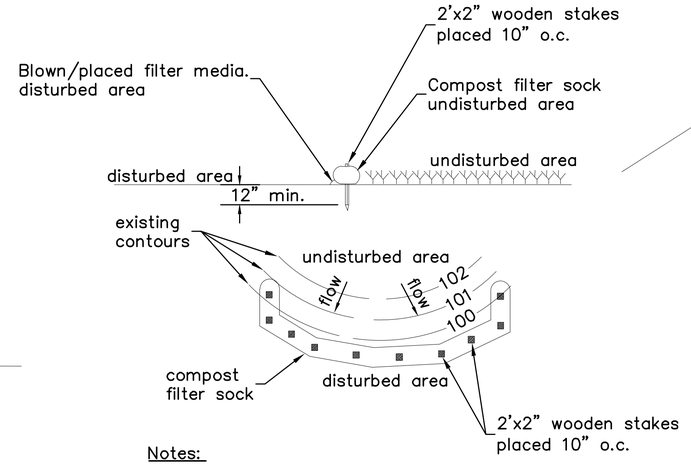


Silt Fence Joint Detail

Not to scale.



Trench Detail



Notes:

Installation:

Filter sock should maintain in solid contact with the soil and be installed in a manner that minimize gaps between the bottom of the sock and the underlying substrate.

Filter socks should be installed parallel to the corner with both ends of the sock extended up slope at a 45 degree angle to the rest of the sock.

Socks placed on earthen slopes should be staked in the center of the sock or immediately down slope of the sock at the interval recommended by the manufacturer. Sock installed on paved surfaces shall have concrete blocks placed immediately down slope of the sock at an interval recommended by the manufacturer.

Maintenance:

Traffic shall not be permitted to cross filter socks.

Inspect the structure weekly and after each rainfall event. Damaged socks shall be repaired according to the manufacturer's specifications or replaced within 24 hours of inspection.

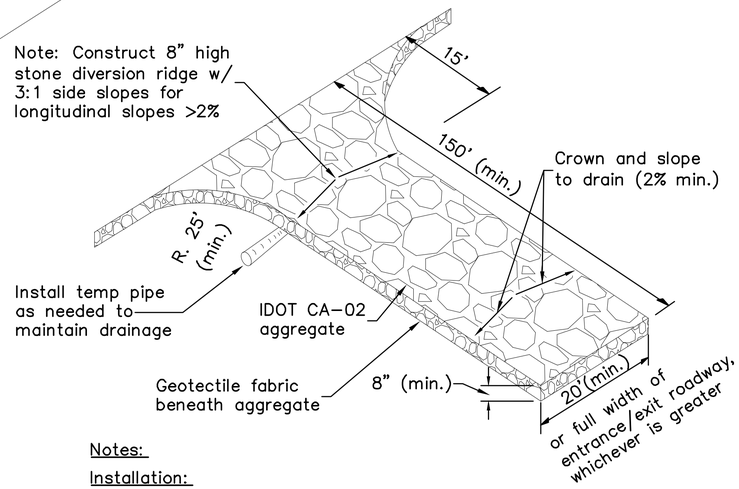
Remove deposited sediment when it reaches half the height of the filter sock at its lowest point.

Take care to avoid undermining the filter sock during the clean out.

After the contributing drainage area has been stabilized, remove and properly dispose of any unstable sediment and construction material, and stabilize.

Filter Sock

Not to scale.



Notes:

Installation:

Avoid locating on steep slopes or at curves in public roads.

Remove all vegetation and other objectionable material from the foundation area and grade the foundation and crown for positive drainage.

If longitudinal slope is greater than 2%, construct a water bar (ridge) about 15 feet from the entrance to divert runoff away from the road (see detail above).

Install pipe under the pad (if needed) to maintain proper public road drainage.

If wet conditions are anticipated, place geotextile fabric on the graded foundation to improve stability.

Place aggregate to dimensions and grade shown on the erosion control plan, leaving the surface smooth and sloped for drainage.

Top–dress the drive with IDOT CA–06.

Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.

Maintenance:

Inspect daily and after each storm event or heavy use.

Reshape pad and topdress as needed for drainage and runoff control. Immediately remove mud and sediment tracked or washed onto public roads by brushing or sweeping. Flushing should only be used if the water is conveyed into a sediment trap or basin.

Temporary Gravel Construction Entrance

Not to scale.

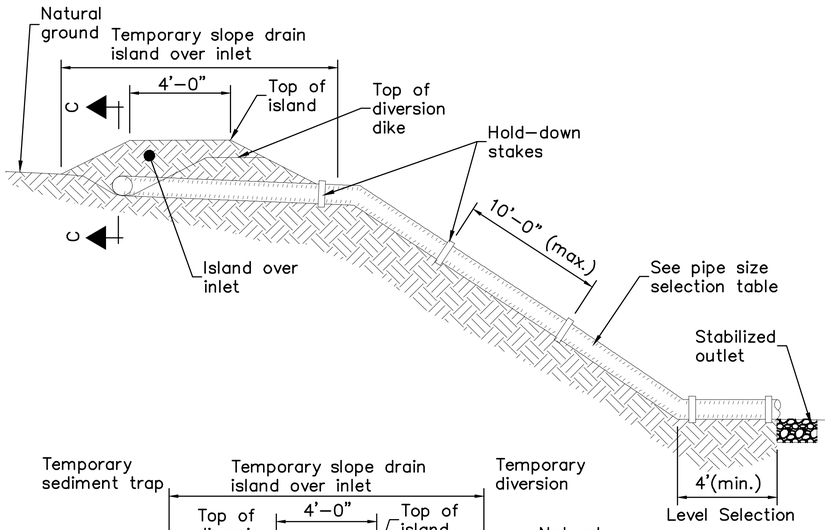
Public Works Construction Standards
Erosion Control Requirements

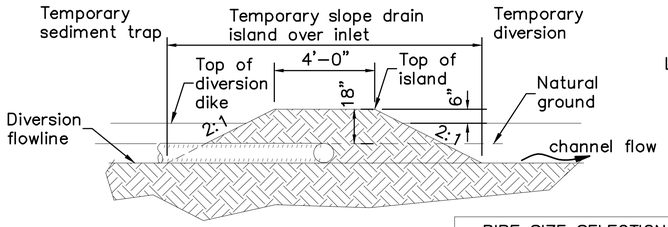
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Section C–C
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PIPE SIZE SELECTION TABLE	
Maximum Drainage Area per Pipe	Minimum Pipe Diameter
0.50 acre	8 in.
0.75 acre	10 in.
1.0 acre	12 in.
>1.0 acre	Individually designed

Notes:

Installation:

Place temporary slope drains on undisturbed soil or well compacted fill. Set the slope drain inlet at the bottom of the diversion channels. Connect the pipe to the inlet section.

Construct the diversion ridge by placing fill over the pipe in 6 inch lifts. Compact each lift by hand tamping under and around the inlet, and along the pipe.

Make the top of the fill 6 inches higher than the adjoining diversion.

Make all of the pipe connections watertight and secure so that the joints will not separate in use.

Anchor the pipe to the face of the slope with stakes no more than 10 feet apart. Extend the pipe beyond the toe of slope to a stable grade. Protect the outlet from erosion.

Grade the diversion channel at the top of the slope toward the temporary slope drain (slope <2%).

Stabilize all undisturbed areas following installation.

Maintenance:

Inspect weekly and following each storm event. (Remove sediment from the channel and reinforce the ridge as needed.)

Check the inlet for sediment or trash accumulation.

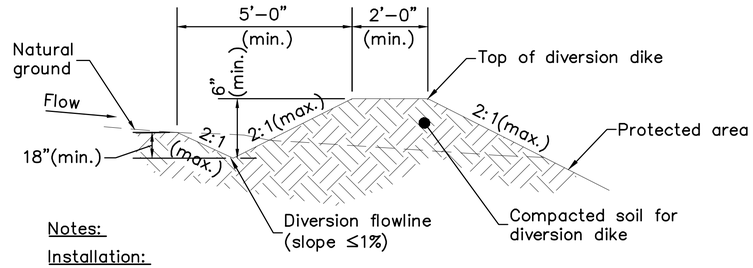
Check the fill over the pipe for settlement, cracking, or piping holes, repair immediately.

Check for holes where the pipe emerges from the dike, repair immediately.

Check the conduit for evidence of leaks or inadequate anchoring, repair immediately.

Check the outlet erosion or sedimentation; clean and repair or extend if necessary.

Temporary Slope Drain
Not to scale.



Notes:

Installation:

Lay out the diversion by setting grade and alignment to fit site needs and topography, maintaining a stable, positive channel grade towards the outlet.

Remove and properly dispose of brush, trees, and other debris from the foundation area.

Construct the diversion to dimensions and grades shown in the construction plans.

Construct the diversion ridge in 6 to 8 inch lifts. Compact each lift by driving wheels of construction equipment along the ridge. Overfill and compact the ridge to design height plus 10% to allow for settlement.

Stabilize outlets prior to or during construction of the diversion, diverting sediment–laden storm water flow to a temporary sediment trap or a temporary dry sediment basin.

Maintenance:

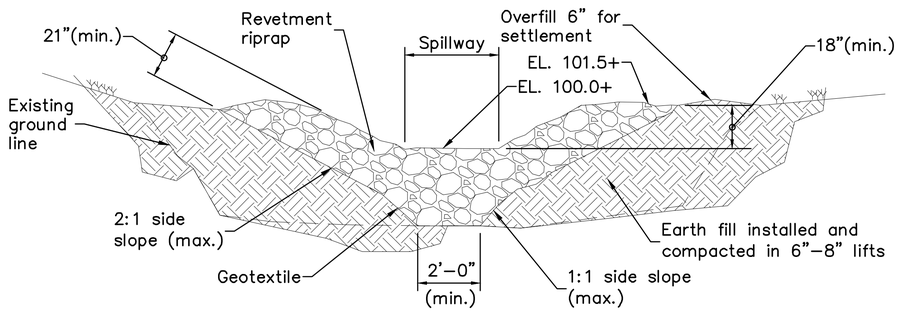
Inspect within 24 hours of each rain event and at least once every seven calendar days.

Remove sediment from channel to maintain positive grade.

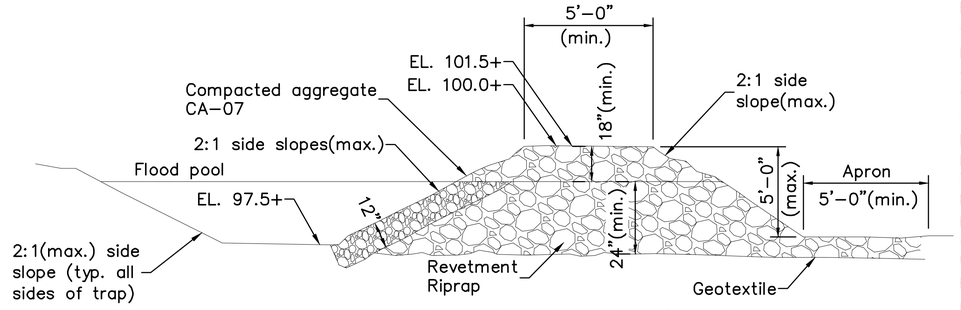
Check outlets and make necessary repairs immediately.

Adjust ridge height to prevent overtopping.

Temporary Diversion
Not to scale.

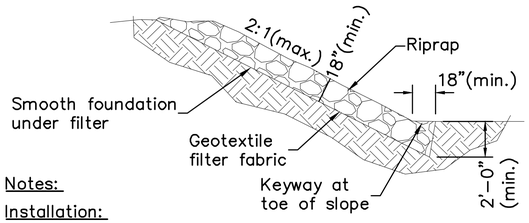


Earth Embankment & Stone Outlet Section



Cross Section View of the Stone Outlet Section

Temporary Sediment Trap
Not to scale.



Notes:

Installation:

Lay out the diversion by setting grade and alignment to fit site needs and topography, maintaining a stable, positive channel grade towards the outlet.

Remove and properly dispose of brush, trees, and other debris from the foundation area.

Construct the diversion to dimensions and grades shown in the construction plans.

Construct the diversion ridge in 6 to 8 inch lifts. Compact each lift by driving wheels of construction equipment along the ridge. Overfill and compact the ridge to design height plus 10% to allow for settlement.

Stabilize outlets prior to or during construction of the diversion, diverting sediment–laden storm water flow to a temporary sediment trap or a temporary dry sediment basin.

Maintenance:

Inspect within 24 hours of each rain event and at least once every seven calendar days.

Remove sediment from channel to maintain positive grade.

Check outlets and make necessary repairs immediately.

Adjust ridge height to prevent overtopping.

Riprap
Not to scale.

Notes:

The spillway width varies with the drainage area contributing to the temporary sediment trap:

Drainage Area (acres)	Width (ft.)
1	4
2	6
3	8
4	10
5	12

The length and width of the basin is as shown on the erosion control plan (maximum drainage area is 5 acres).

Installation:

Clear, grub, and strip all vegetation and root mat from the embankment area.

Create embankment using material free from roots, rocks, brush, and debris. Overfill the embankment 6 inches to allow for settling.

Excavate a trapezoidal stone outlet section from the compacted embankment (section A–A).

Install geotextile and place specified stone to the lines and grades shown.

Stabilize the embankment and other disturbed areas with seed and mulch or another suitable erosion resistant cover.

Maintenance:

Inspect traps weekly and following each storm event and immediately repair. Check embankment for any erosion and piping holes and repair.

Remove sediment when it has accumulated to one half the design depth. Check pool area side slopes for erosion and repair.

Replace spillway gravel facing if clogged.

Inspect vegetation and reseed again, if necessary.

Check the spillway depth periodically to ensure a minimum 18 inch depth from the lowest point of the settled embankment to the highest point of the spillway crest. Fill any low areas to maintain the design elevation.

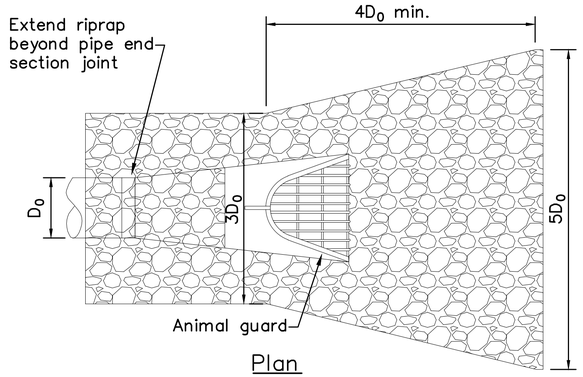
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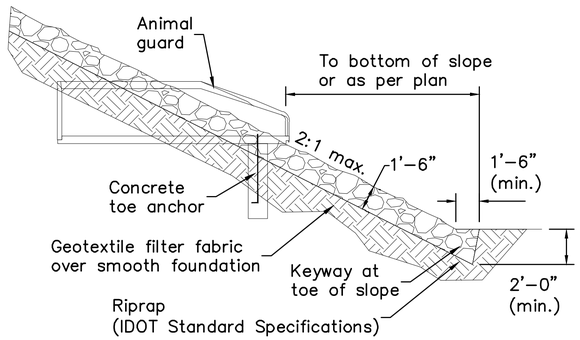
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Plan



Section

Precast Concrete End Section
w/ Riprap Energy Dissipator
Not to scale.

Notes:

Installation:

Excavate only deep enough for both filter and riprap. Compact any fill material to the density of the surrounding undisturbed soil.

Cut a keyway in stable material at the base of the slope to reinforce the toe; keyway depth should be 1 ½ times the design thickness of the riprap and should extend a horizontal distance equal to the design thickness.

Place geotextile fabric on the smooth foundation, overlapping the edges 12 inches minimum. Secure with anchor pins spaced every 3 feet along the overlap.

Immediately after installing the filter, add the riprap to full thickness in one operation. Do not dump through chutes or use any method that causes segregation of rock sizes or that will discharge or damage the underlying filter material.

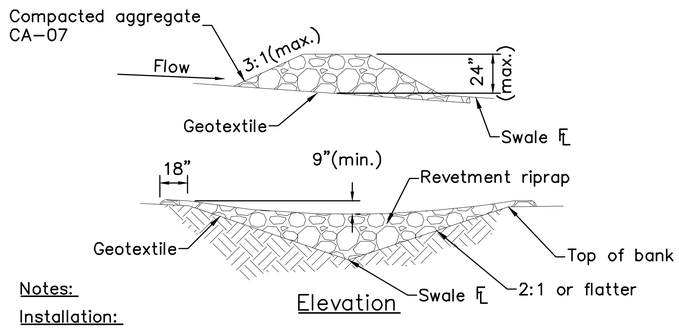
If fabric is damaged, remove the riprap and repair by adding another layer of fabric. Overlapping the damaged area by 12 inches.

Place smaller rock in voids to form a dense, uniform, well graded mass. Blend the rock surface smoothly with the surrounding area to eliminate protrusions or over–falls.

Inspect periodically for displaced rock material, slumping, and erosion at edges, especially downstream or downslope.

Maintenance:

Inspect periodically for displaced rock material, slumping, and erosion at edges, especially downstream or downslope.



Elevation

Notes:

Installation:

Excavate a cutoff trench into the swale banks and extend it a minimum of 18 inches beyond the top of bank. Place the rock in the cutoff trench and channel to the limits and dimensions shown.

Extend the rock at least 18 inches beyond the top of bank to keep overflow from undercutting the dam as it reenters the channel.

Space dams so that the upstream dam toe elevation and the overflow weir of the downstream dam top elevation are the same. (A 1% swale slope would equal 200' spacing)

Stabilize the channel above the uppermost dam. Erosion resistant lining shall extend at least 6"below lowest dam.

Maintenance:

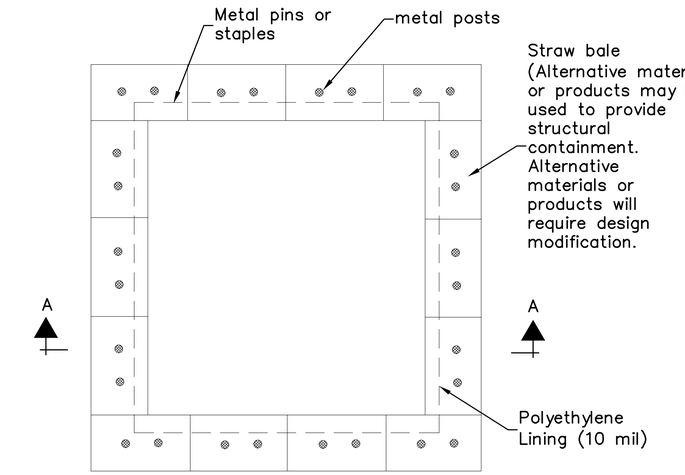
Inspect check dams and the channel after each storm event and repair any damage immediately. If significant erosion occurs between dams, install a riprap liner in that portion of the channel.

Remove sediment accumulated behind each dam as needed to maintain channel capacity. To allow drainage through the dam and to prevent large flows from displacing sediment.

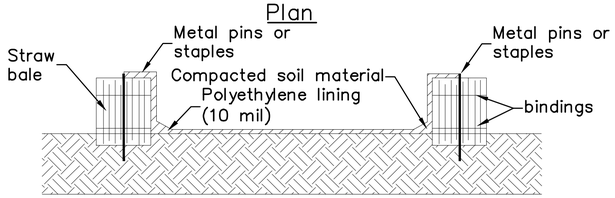
Add aggregate to the dams as needed to maintain design height and cross section.

When the dams are no longer needed remove the aggregate and stabilize channel using an erosion resistant lining, if necessary.

Rock Check Dam
Not to scale.



Plan



Section A–A

Concrete Washout
Not to scale.

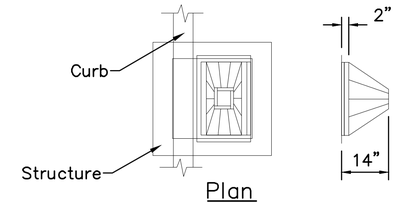
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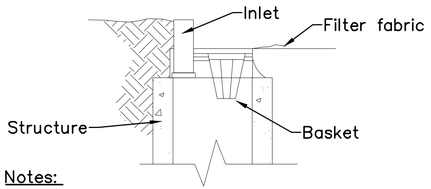
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Plan



Section

Notes:

Installation:

Install basket curb inlet protection as soon as inlet boxes are installed (new development) or prior to land disturbing activities (existing development).

If necessary, adapt basket dimensions to fit inlet box dimensions.

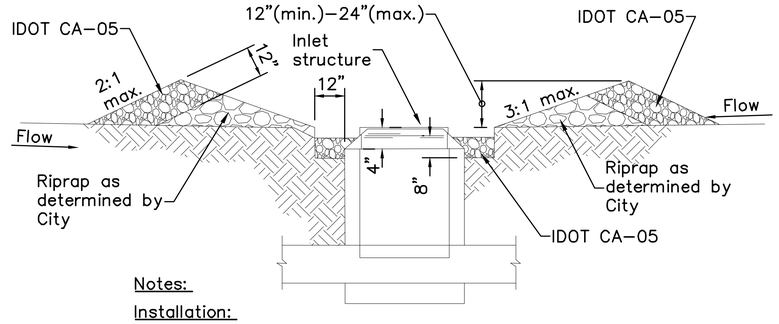
Remove the grate and install the frame into the grate opening. Cut and install geotextile fabric according to the manufacturer's recommendations. Replace the grate.

Maintenance:

Inspect daily and after each storm and remove sediment. Replace or clean geotextile fabric as needed. Remove tracked on sediment from the street (but not by flushing with water) to reduce the sediment load on this curb inlet practice.

Basket Curb Inlet Protection

Not to scale.



Notes:

Installation:

Excavate an 8 inch deep and minimum 12 inch wide area immediately out from the storm drain.

Around that excavated area, lay a ring of Riprap to a height of 12–24 inches above the top of the inlet, per the detail as shown.

Cover the outside face of the ring with at least 12 inches of IDOT CA–05, maintain slopes as shown.

Place IDOT CA–05 in the 12 inch wide excavation, from the toe of the inside slope to the inlet structure.

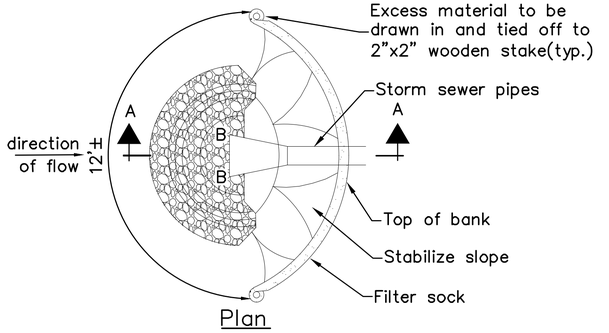
Maintenance:

Inspect the structure daily and after each storm event, removing sediment and making needed repairs immediately.

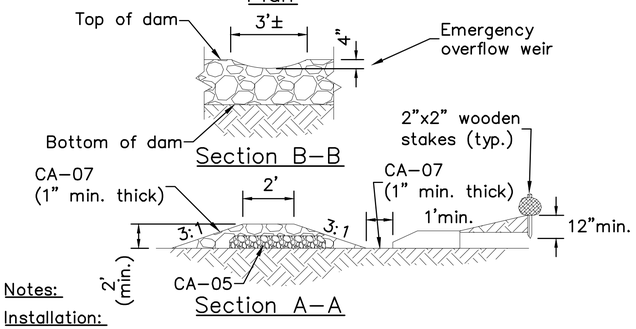
When the contributing drainage area has been stabilized, remove and properly dispose of any unstable sediment and construction material, and restabilize.

Gravel Donut Drop Inlet Protection

Not to scale.



Plan



Section B–B

Section A–A

Notes:

Installation:

Foundation shall be laid on geotextile fabric.

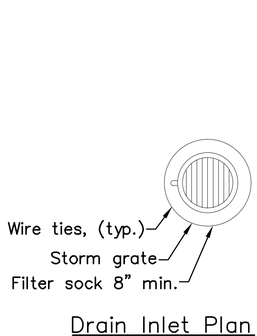
Maintenance:

Inspect the structure weekly and after each rainfall event.

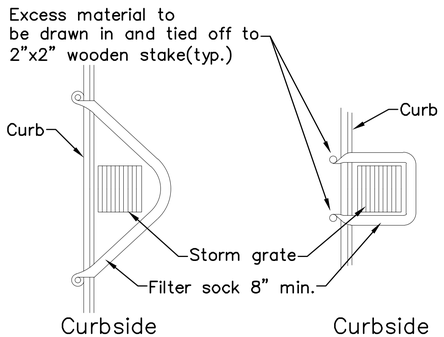
After the contributing drainage area has been stabilized, remove and properly dispose of any unstable sediment and construction material, and stabilize.

Rock Donut

Not to scale.



Drain Inlet Plan



Curbside Option "A" Plan

Curbside Option "B" Plan

Notes:

Installation:

Filter sock should maintain solid contact with the surface and be installed in a manner that minimizes gaps between the bottom of the sock and the underlying substrate.

Socks placed on unpaved surfaces shall be staked in the center of the sock or immediately down slope of the sock at the interval recommended by the manufacturer. Socks installed on paved surfaces shall have concrete blocks placed immediately down slope of the sock at an interval recommended by the manufacturer.

Maintenance:

Traffic shall not be permitted to cross filter socks.

Inspect the structure weekly and after each rainfall event. Damaged socks shall be repaired according to the manufacturer's specifications or replaced within 24 hours of inspection.

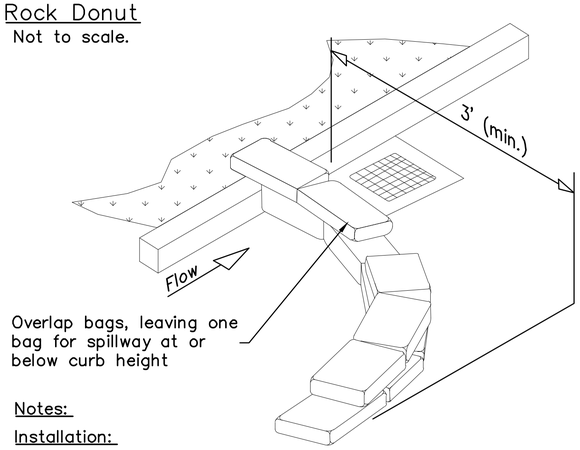
Remove deposited sediment when it reaches half the height of the filter sock at its lowest point.

Take care to avoid undermining the filter sock during clean out.

After the contributing drainage area has been stabilized, remove, and properly dispose of any unstable sediment and construct material, and stabilize.

Filter Sock Inlet Protection

Not to scale.



Notes:

Installation:

Fill bags approximately half full with washed aggregate.

Place bags in a row curving from the curb, and away from the inlet up–slope from the inlet.

Overlap the barrier onto the curb, extending it a minimum of 3 feet into the street.

Maintenance:

Inspect daily and after each storm event for damage and nake needed repairs immediately.

Inspect for damage by vehicular traffic and repair as needed.

Remove sediment (but not by flushing) when it reaches half the height of the barrier.

Stone Bag Inlet Sediment Barrier

Not to scale.

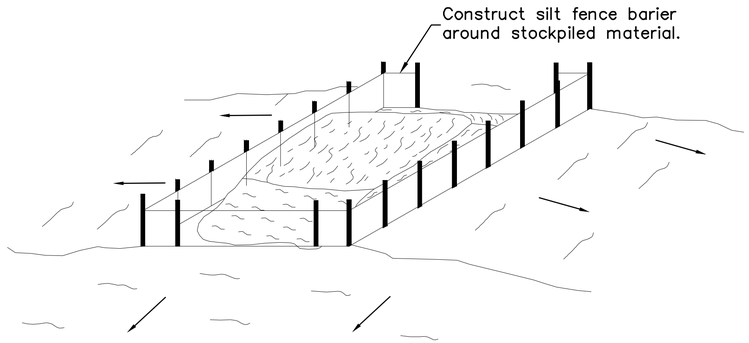
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Notes:

Installation:

Stockpiles shall be located away from any down slope street, driveway, ditch, wetland, or other drainage way. Shall be free from stumps, rock, and construction debris. Locations shall be approved by the City of Joliet.

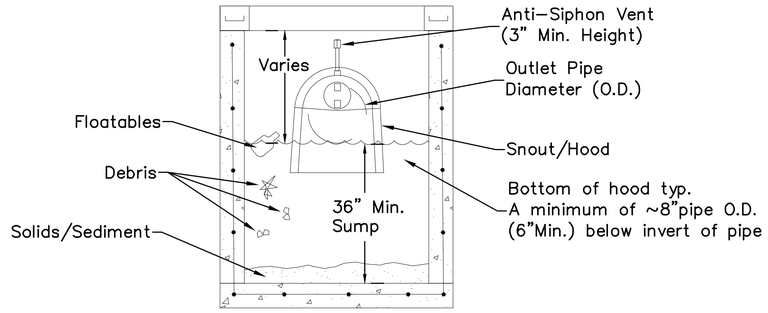
Immediately after stockpiling temporary seed the stockpiles with temporary seed or cover with tarp and install silt fence around the perimeter of the stockpile.

As applicable, all offsite storage areas must be permitted and must follow all appropriate erosion and sediment prevention measures as indicated in this plan.

Excess excavation shall be disposed of outside of the rights–of–way as directed in the Standard Specifications for Road and Bridge Construction.

Topsoil Salvage & Utilization Detail

Not to scale.



Notes:

Installation:

Snout/hood is installed over the outlet pipe of a catch basin or stormwater structure to reduce floatable trash and debris, free oils, and other solids from stormwater discharges.

Snout/hood shall be centered and anchored over the outlet pipe and must cover the pipe O.D. to ensure proper installation.

Structure shall be sumped to manufacture's recommended depth. Minimum sump depth is typically 2.5 to 3 times the I.D. of the outlet pipe size (minimum of 36 inches).

Snout/hood shall be equipped with an anti–siphon vent.

Maximum flow and velocity shall not exceed manufacture's recommendation.

Maintenance:

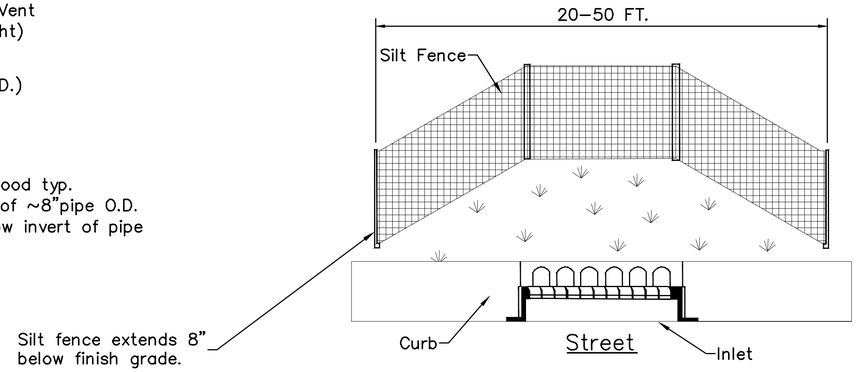
Sediment depth and surface pollutants in the sump shall be measured monthly and after each rain event of ~8 inches or more.

The sump shall be emptied at least yearly and when the sump is half full, or six inches of floatable pollutants accumulate on the surface.

The snout/hood shall be inspected yearly, and the anti–siphon vent shall be flushed to ensure it is clear.

Snout/Hood Oil Water Debris Seperator

Not to scale.



Notes:

Installation:

Silt fence is not recommended for use as a diversion and should not be used across a stream, channel, ditch, swale, or anywhere that concentrated flow is anticipated.

Along the entire fence line dig an 8 inch deep flat bottomed or V–shaped trench. Place according to manufacturer's recommendations.

Maintenance:

Inspect the silt fence weekly and after each ½"rain event.

If fence fabric tears, starts to decompose, or in any way becomes ineffective, replace the affected portion immediately.

Remove deposited sediment when it reaches half the height of the fence at its lowest point or is causing the fabric to bulge.

Take care to avoid the undermining the fence during clean out.

After the contributing drainage area has been stabilized, remove the fence and sediment deposits, bring the disturbed area to grade and stabilize.

Silt Fence behind Curb

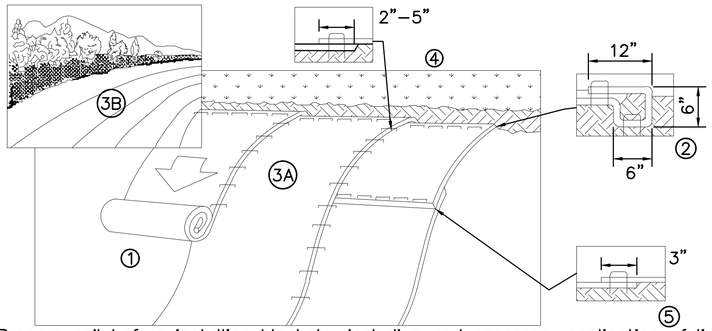
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Prepare soil before installing blankets, including and necessary application of lime, fertilizer, and seed.

1. Begin at the top of the slope by anchoring the blanket in a 6 inch deep by 6 inch wide trench with approximately 12 inches of blanket extended beyond the upslope portion of the trench. Anchor the blanket with a row of staples/stakes approximately 12 inches apart in the bottom of the trench.

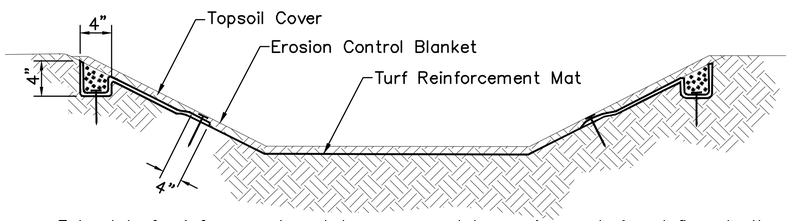
2. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12 inch portion of blanket back over seed and compacted soil. Secure blanket over compacted soil with a row of staples/stakes spaced approximately 12 inches apart across the width of the blanket.

3. Roll the blankets (A.) down or (B.) horizontally across the slope. Blankets will unroll with appropriate side against the soil surface. All blankets must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide. When using optional Dot System, staples/stakes should be placed through each of the colored dots corresponding to the appropriate staple pattern.

4. The edges of parallel blankets must be stapled with approximately 2–5 inches overlap depending on blanket type. To ensure proper seam alignment place the edge of the overlapping blanket (blanket being installed on top) even with the colored seam stitch on the previously installed blanket.

5. Consecutive blankets spliced down the slope must be placed end over end (shingle style) with an approximate 3 inch overlap. Staple through overlapped area approximately 12 inches apart across entire blanket width.

Overlap the blankets with the direction of the flow of the water.
Note:
* In loose soil conditions the use of staple or stake lengths greater than 6 inches may be necessary to properly secure the blankets.



Extend turf reinforcement mat to accommodate maximum designed flow depth.

Notes:

Installation:

Select the type of mat recommended for the site conditions (slope, channel, flow velocity) and problem to be addressed.

Install any practices needed to control erosion and runoff, such as temporary or permanent diversions, slope drains, sediment basins/traps, silt fence or straw bale dams.

Grade the site as specified.

Install the mat according to manufacturer's specifications.

Backfill topsoil to a depth equal to the thickness of the mat.

Seed the area after the mat has been installed and backfilled with soil.

Maintenance:

Until the surface is stabilized, inspect weekly and after each storm event for erosion exposing the mat.

If a specific area shows erosion add soil and restabilize.

Turf Reinforcement Mat

Not to scale.

Notes:

The following table is for general seeding information only. Consult the Illinois Urban Manual and the City for recommendations relating to steep banks and cuts, high maintenance areas and channels and areas of concentrated flow.

If construction activities take place during the months of November through February. Use dormant seeding practices in place of temporary and permanent seeing practices.

See the Standard Specification for Road and Bridge Construction for additional seeding recommendations.

Seeds:	Fertilizer:
40 percent Kentucky Bluegrass	Commercial Fertilizer
40 percent Creeping Red Fescue	(12–12–12)
20 percent Annual Rye Grass	Straw:
	Clean and free of weed seeds.

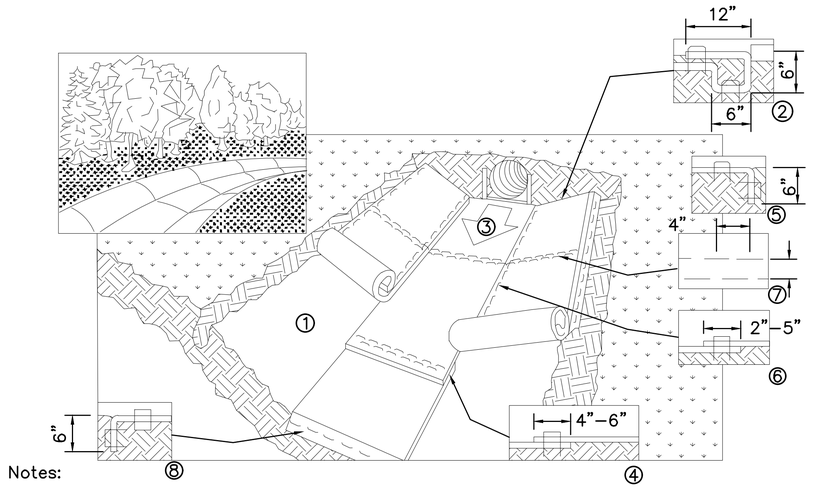
Spread fertilizer uniformly over finish graded surfaces at a rate of 20 pounds per 1,000 square feet. Thoroughly disk, harrow, or rake fertilizer into soil to depth not less than 2 inches.

Distribute seed mix same day as fertilizer is applied. Spread evenly at a rate of 3 pounds per 1,000 square feet. Rake lightly and compact areas with 100–pound roller.

Cover areas with straw. Evenly spread at a rate of 2 tons per acre immediately after seeding. Water areas with fine spray. Do not flood or create washes. Protect seeded areas from erosion.

Continue watering of these areas daily for the remainder of the construction period.

Hold sloped areas steeper than 2 (horizontal) to 1 (vertical) with wire mesh or stakes and wire.



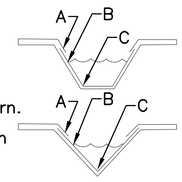
Notes:

1. Prepare spoil before installing blankets, including any necessary application of lime, fertilizer, or seed.
2. Begin at the top of the channel by anchoring the blanket in a 6 inch deep by 6–inch–wide trench with approximately 12 inches of blanket extended beyond the upslope portion of the trench. Anchor the blanket with a row of staples/stakes approximately 12 inches apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12–inch portion of blanket back over seed and compacted soil. Secure blanket over compacted soil with a row of staples/stakes spaced approximately 12 inches apart across the width of the blanket.
3. Roll center blanket in direction of water in bottom of channel. Blankets will unroll with appropriate side against the soil surface. All blankets must be securely fastened to soil surface by placing staples/stakes in approximate locations as shown in the staple pattern guide. When using optional dot system staples/stakes should be placed through each of the colored dots corresponding to the appropriate staple pattern.
4. Place consecutive blankets end over end (shingle style) with a 4–6 inch overlap. Use a double row of staples staggered 4 inches apart and 4 inches on center to secure blankets.
5. Full length edge of blankets at top of side slopes must be anchored with a row of staples/stakes approximately 12 inches apart in a 6 inch deep by 6 inch wide trench. Backfill and compact the trench after stapling.
6. Adjacent blankets must be overlapped approximately 2–5 inches, (depending on blanket type) and stapled. To ensure proper seam alignment place the edge of the overlapping blanket (blanket being installed on top) even with the colored seam stitch on the blanket being overlapped.
7. In high flow channel applications, a staple check slot is recommended at 30–40 foot intervals. Use a double row of staples staggered 4 inches apart and 4 inches on center over the entire width of the channel.
8. The terminal end of the blankets must be anchored with a row of staples/stakes approximately 12 inches apart in a 6 inch deep by 6 inch wide trench. Backfill and compact the trench after stapling.

Note:

* Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.

** In loose soil conditions, the use of staple or stake lengths greater than 6 inches may be necessary to properly anchor the blankets.



Critical points:
A. Overlaps and seams
B. Projected water line.
C. Channel bottom/side slope verticies

Erosion Control Blanket – Flowline Application

Not to scale.

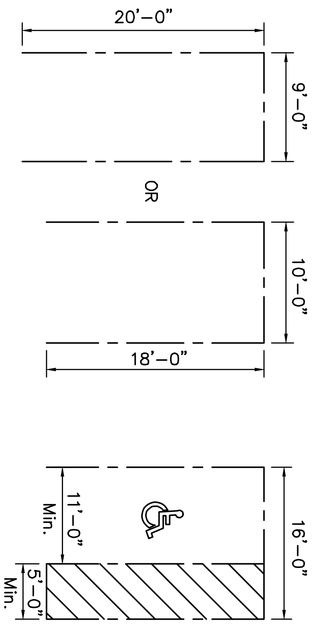
Public Works Construction Standards
Erosion Control Requirements

SCALE: NONE | DATE: March 2024 | SHEET 26 OF 39

CHECKED BY: GPR | DESIGNED BY: SWM | DRAWN BY: SWM

CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
(815)–724–4200

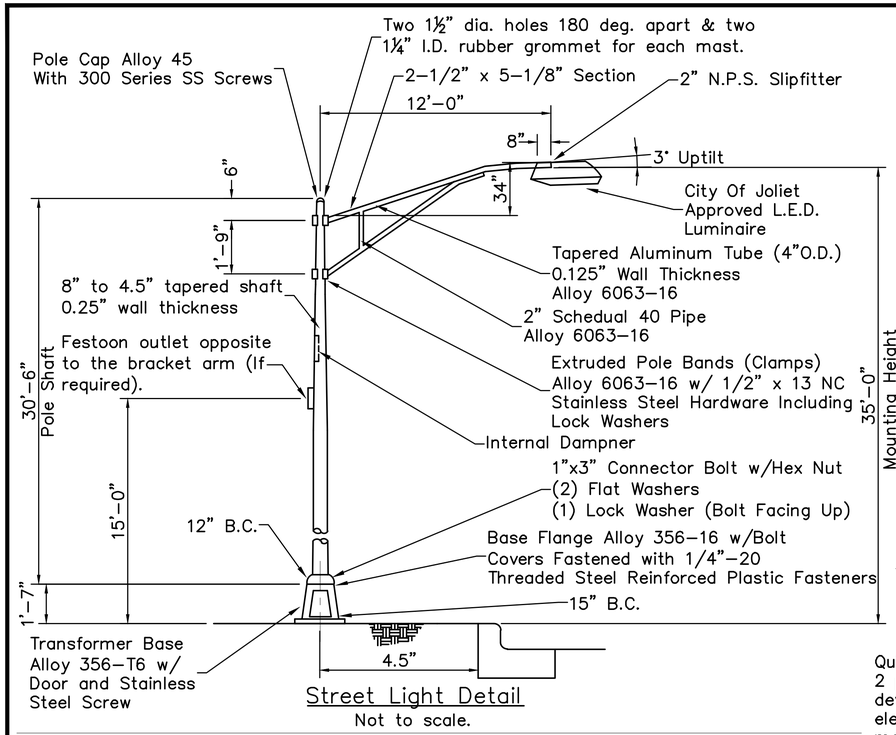
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CITY OF JOLIET DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
(815)-724-4200

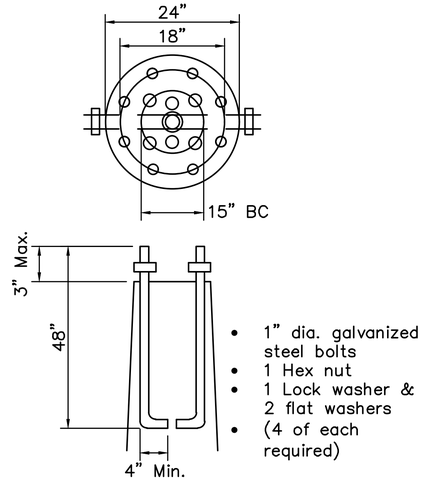
CHECKED BY: GPR	SCALE: NONE
DESIGNED BY: SWM	DATE: March 2024
DRAWN BY: SWM	SHEET 27 OF 39

Public Works Construction Standards
Signage & Striping Requirements



Street Light Detail

Not to scale.



Anchor Bolts

No scale.

General Notes

The contractor shall submit detailed shop drawings or catalog cuts for all equipment & materials to the City of Joliet for approval prior to fabrication or installation. Failure to submit and approve material may result in unaccepted work and/or reinstallation.

The streetlight system shall be installed in accordance to the most current edition of the "District One Recurring Special Provisions for Roadway Lighting", the "National Electric Code", "AASHTO", and the standard specifications for road and bridge construction.

All conductors shall be copper with an XLP/USE insulation rating.

The contractor shall provide the service connection & meter assembly for Commonwealth Edison. All coordination shall be the responsibility of the contractor.

The electrical meter shall be installed on the side of the controller opposite that of oncoming traffic.

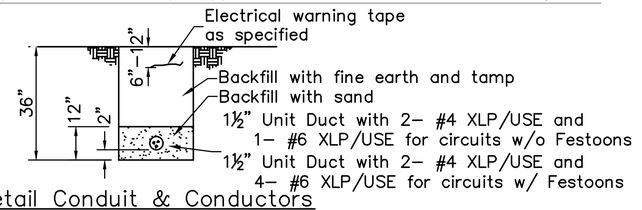
Two raceways or conduits shall be provided for each streetlight foundation. A junction of three raceways or conduits shall utilize a handhole.

Prior to beginning construction, the contractor shall contact the City of Joliet Traffic Engineer at (815)724-4200 to arrange an onsite project meeting. Confirmation of all approved materials and addressing any final questions shall take place at this time.

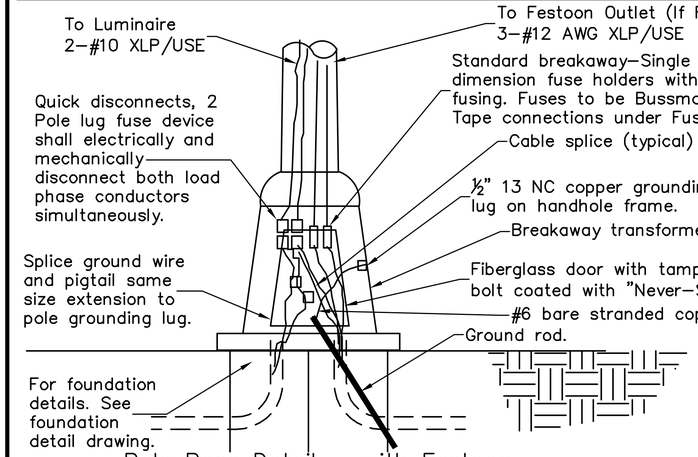
Foundation inspections will be required prior to pouring concrete.

All conduit between the streetlight controller and the service connection shall be rigid galvanize steel conduit.

Waterproof inline fuses (5Amp) are to be installed at the streetlight transformer base.

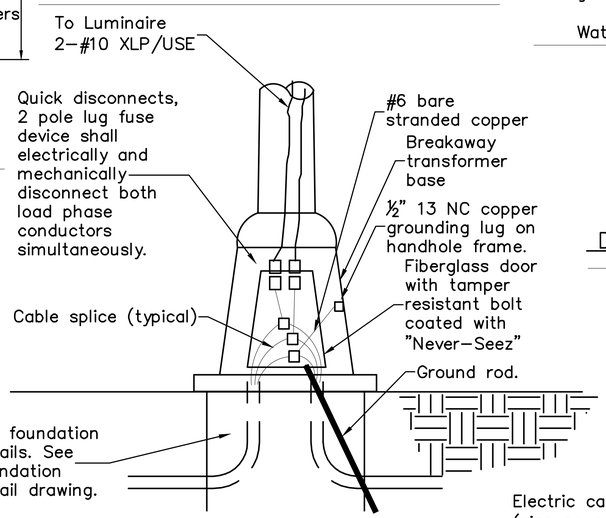


Detail Conduit & Conductors



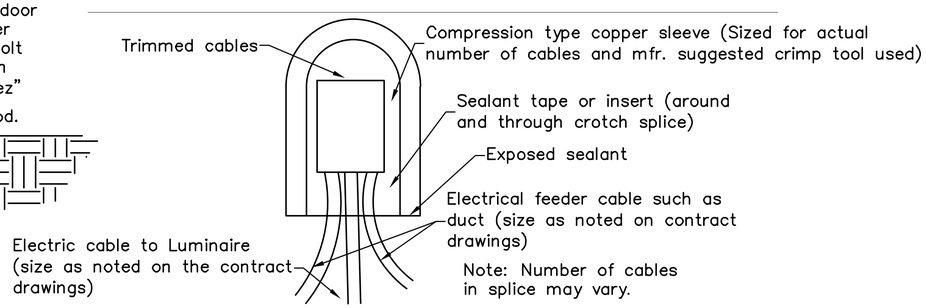
Pole Base Detail - with Festoon

Not to scale.



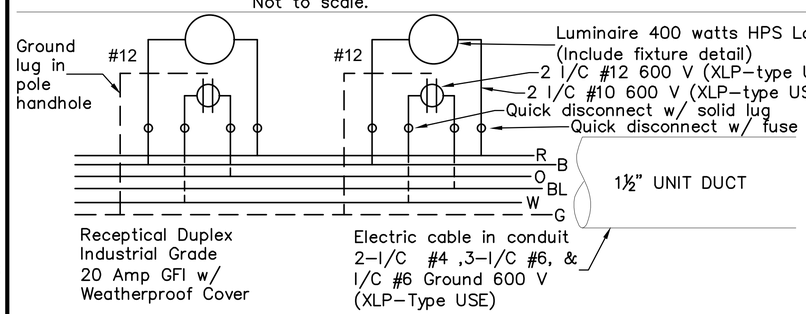
Pole Base Detail - without Festoon

Not to scale.



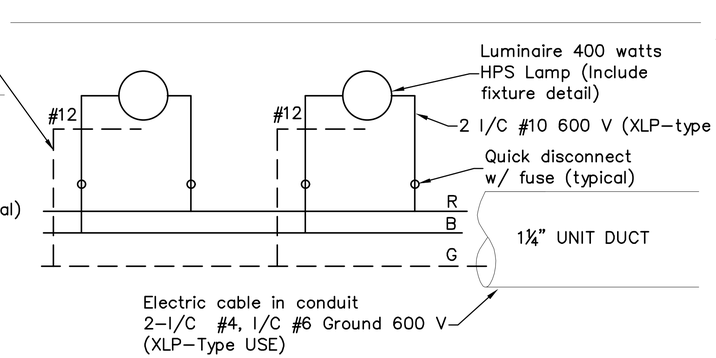
Splicing Electric Cable

No scale



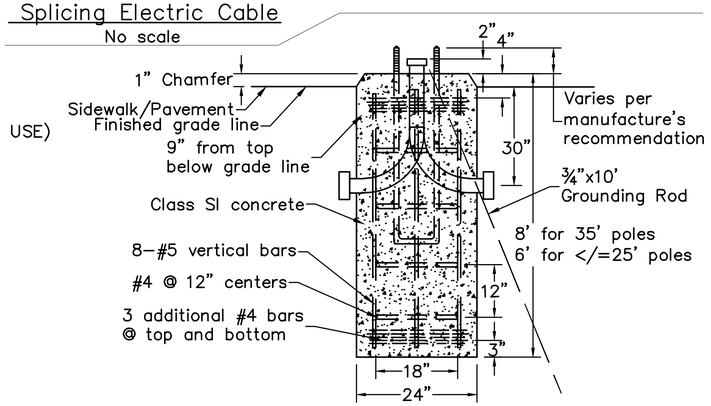
Light Pole Wiring - with Festoon

240/120 Volt 1 Phase 6 Conductor



Light Pole Wiring - without Festoon

240/120 Volt 1 Phase 3 Conductor



Street Light Pole Foundation Type A (typical)

No scale

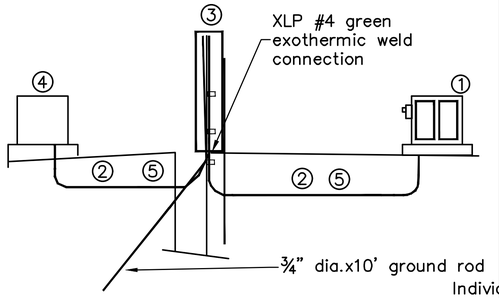
Public Works Construction Standards
Street Light Requirements

SCALE: NONE
DATE: March 2024
SHEET 28 OF 39

CHECKED BY: GPR
DESIGNED BY: SWM
DRAWN BY: SWM

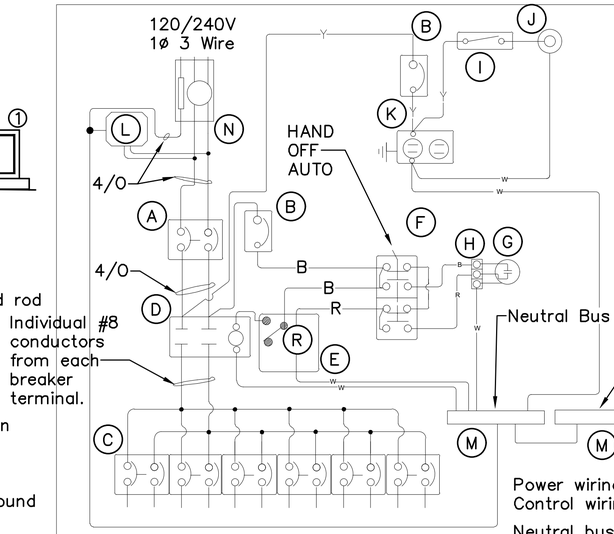
CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
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(815)-724-4200

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Underground Electric Service

1. Lighting control cabinet, console Type III
2. 2–1/2" RGS conduit in trench or pushed between cabinet and pedestal and between pedestal and transformer
3. Service Disconnect Breaker– Fiberglass above ground pedestal w/ 200 amp breaker and neutral buss
4. Ground mounted Com Ed transformer
5. Electric cable in conduit, 600V XLP/USE, 3–1/c 3–o, 1–1/c #4

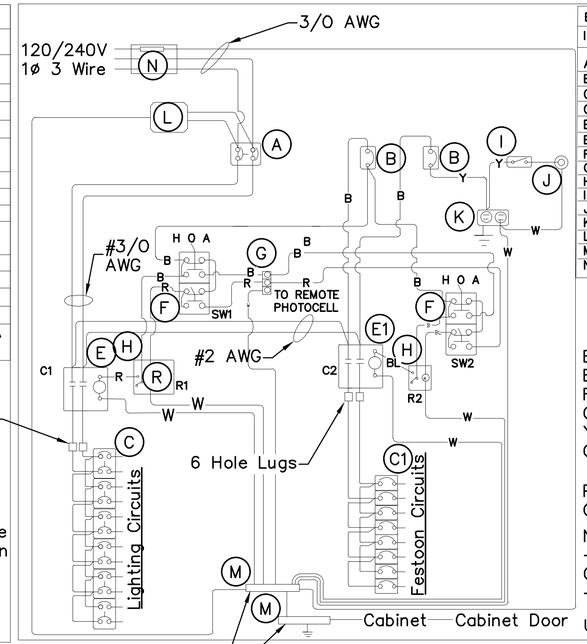


BILL OF MATERIALS		
ITEM	QTY	DESCRIPTION
A	1	C/H ED2200 2P 220A
B	2	C/H EHD1015L 1P 15A
C	6	C/H EHD2030L 2P 30A
D	1	C/H CN35NN2A
E	1	SQ.D ZELIO RPF2BF7 120V COIL RELAY
F	1	SQ.D 9001KYK111 HOA
G	1	FPFA105M PHOTOCELL
H	1	CINCH 3PT TB
I	1	MICRO BA–2RQ1–A2 DOOR SWITCH
J	1	RAB VX100DG FIXTURE
K	1	HUBBEL GFRST20I GFCI
L	1	SQ.D SDSA1175 SURGE
M	2	1X12X1/4 COPPER BUSS
N	1	U8949–RL–TG–KK–200A METER HOUSING

Power wiring RHH/RHW
Control wiring #12 MTW

Neutral bus connector screws painted white
Ground bus connector screws painted green

Streetlights without Festoon Outlets



BILL OF MATERIALS		
ITEM	QTY	DESCRIPTION
A	1	C/H ED2200L 2P 200A 240V
B	2	C/H EHD1015LZ04 1P 15A
C	6	C/H EHD2030L 2P 30A
C1	8	C/H EHD1030L 1P 30A
E	1	C/H CN35NN2A 2P 200A
E1	1	C/H CN35KN2A 2P 100A
F	2	SQ.D 9001KS43BH13 HOA SWITCH
G	1	CINCH 3PT TB
H	2	MAGNECRAFT W389ACX–9 120V
I	1	MICRO BA–2RQ1–A2 DOOR SWITCH
J	1	RAB VX100DG LIGHT FIXTURE
K	1	LEVITON GFRST201 20A GFCI
L	1	SQ.D SDSA1175 SURGE PROTECTOR
M	2	1X12X1/4 COPPER BUSS
N	1	U8949 200A MILBANK 1 DIA 3 WIRE

B = Black
BL = Blue
R = Red
OR = Orange
Y = Yellow
GR = Green

Power wiring RHH/RHW
Control Wiring #12 MTW

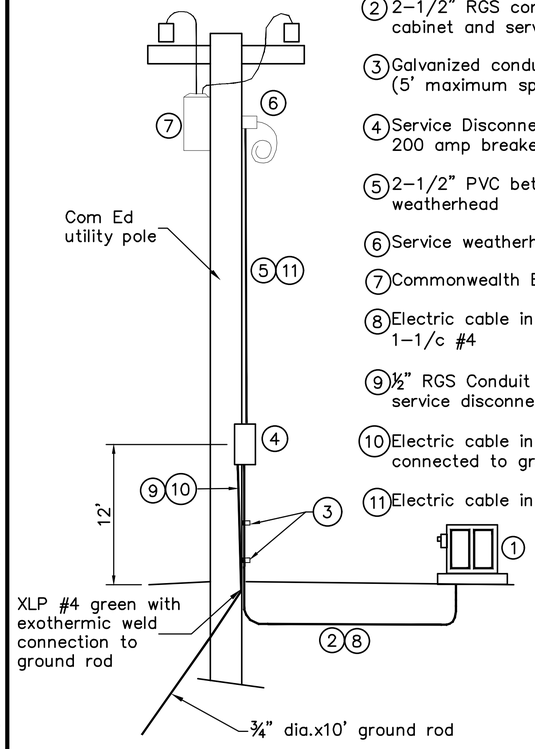
Neutral bus connector screws – painted white
Ground bus connector screws – painted green

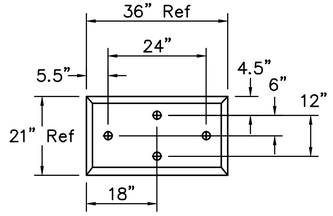
U.L. Listed

Streetlights with Festoon Outlets

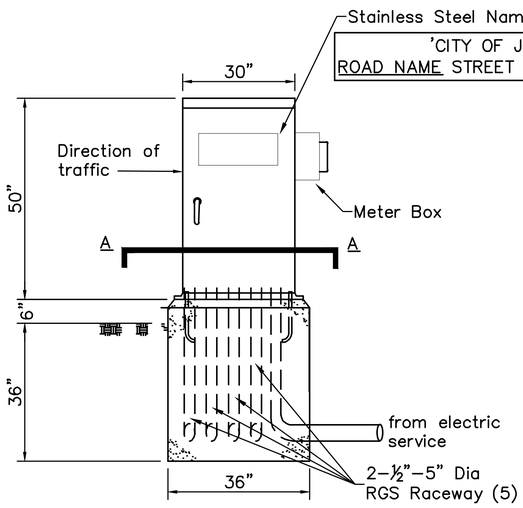
Overhead Electric Service

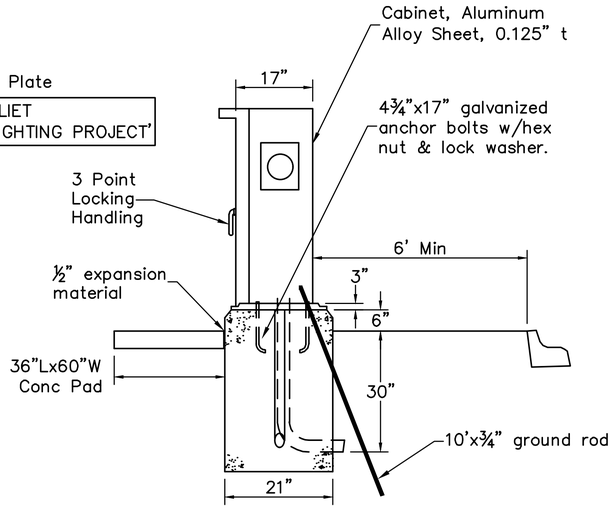
1. Lighting control cabinet, console Type III
2. 2–1/2" RGS conduit in trench or pushed between cabinet and service disconnect breaker
3. Galvanized conduit clamps and galvanized lag screws (5' maximum spacing)
4. Service Disconnect Breaker– NEMA 3R enclosure w/ 200 amp breaker and neutral buss
5. 2–1/2" PVC between disconnect breaker and service weatherhead
6. Service weatherhead
7. Commonwealth Edison Transformer
8. Electric cable in conduit, 600V XLP/USE, 3–1/c 3–o, 1–1/c #4
9. ½" RGS Conduit from ground level of service pole to service disconnect breaker enclosure w/pipe clamps
10. Electric cable in conduit, 600V XLP/USE 1–1/C #4 connected to ground rod + NEMA 3R enclosure box
11. Electric cable in conduit, 600V XLP/USE, 3–1/c 3–o





View A–A





Cabinet & Foundation Detail

NOTE: ALL ITEMS UNDER OVERHEAD AND UNDERGROUND ELECTRIC SERVICE SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM 'ELECTRIC SERVICE INSTALLATION'

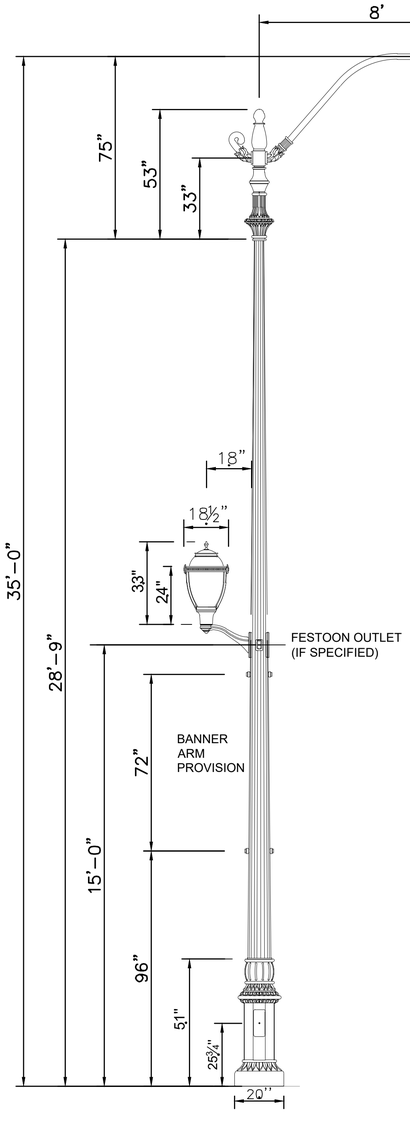
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Public Works Construction Standards
Street Light Requirements

SCALE: NONE
DATE: March 2024
SHEET 29 OF 39

CHECKED BY: CPR
DESIGNED BY: SWM
DRAWN BY: SWM

CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
(815)–724–4200

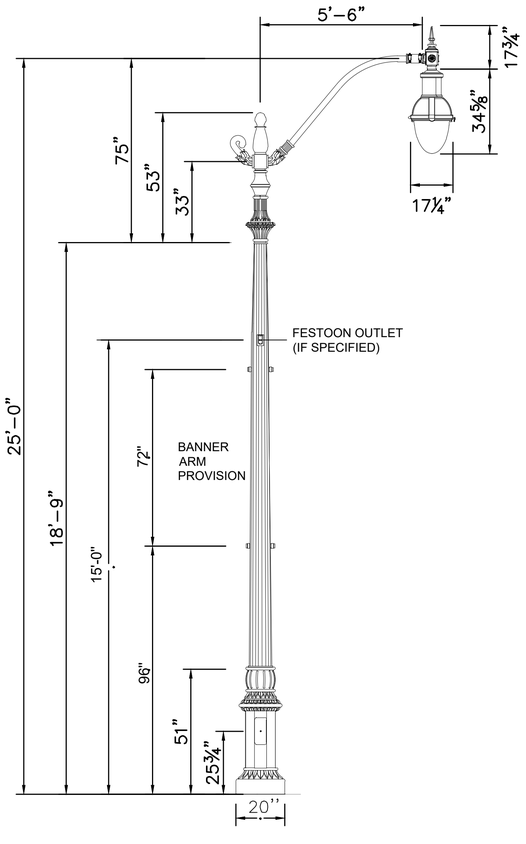


35' DECORATIVE ROADWAY LIGHTING DETAIL

LUMINARE – PHILLIPS LUMEC RN20 – 135W80LED4K

LUMINARE – PHILLIPS LUMEC [L81–011] – 80W48LED4K (IF REQUIRED)

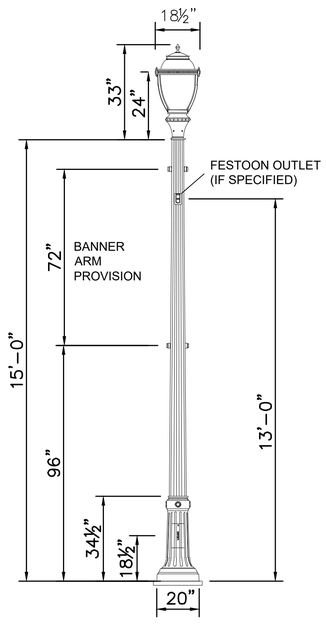
COLOR – SPECIFY RAL 6012 (GREEN) OR RAL 9005TX (BLACK)



25' DECORATIVE ROADWAY LIGHTING DETAIL

LUMINARE – PHILLIPS LUMEC RN20 – 110W64LED4K

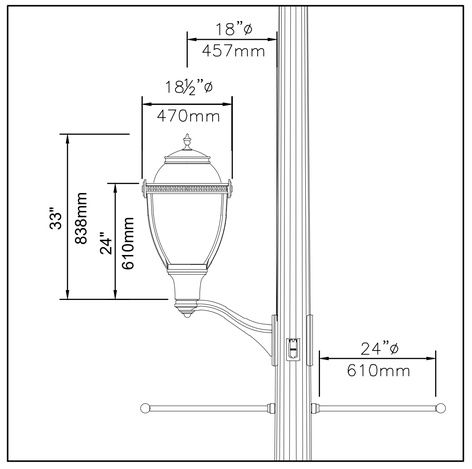
COLOR – SPECIFY RAL 6012 (GREEN) OR RAL 9005TX (BLACK)



16' DECORATIVE PEDESTRIAN LIGHTING DETAIL

LUMINARE – PHILLIPS LUMEC [L81–011] – 80W48LED4K

COLOR – SPECIFY RAL6012 (GREEN) OR RAL 9005TX (BLACK)

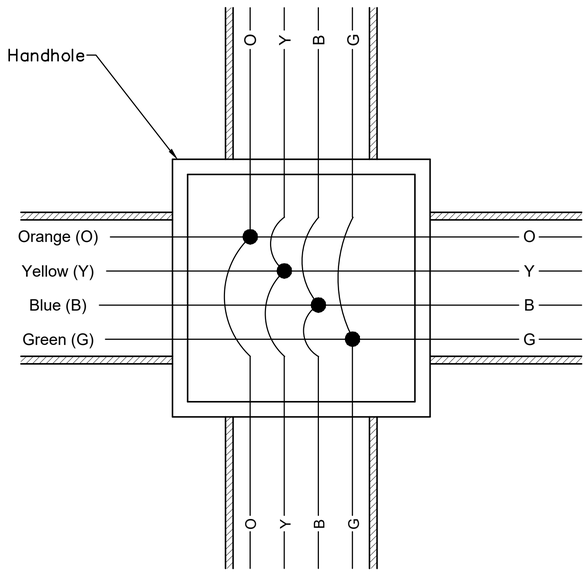


Public Works Construction Standards
Street Light Requirements

CHECKED BY: *GPR*	SCALE: *NONE*	SHEET *30* OF *39*
DESIGNED BY: *SWM*	DATE: *March 2024*	
DRAWN BY: *SWM*		

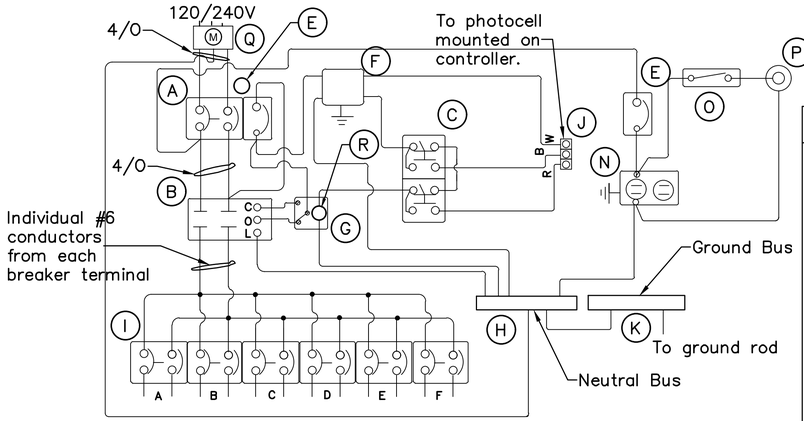
CITY OF JOLIET DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
(815)–724–4200

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Handhole Cable Detail

Splice shall be kept to a minimum in handholes.



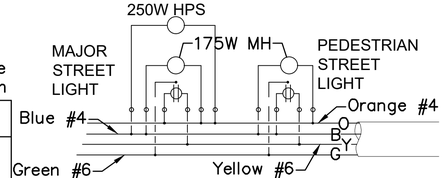
Streetlights with Festoon Outlets

Power wiring RHH/RHW
Control Wiring #12 MTW

Neutral bus connector screws – painted white
Ground bus connector screws – painted green

SCHEDULE OF DEVICES

A.	MAIN BREAKER 2P/200A C/H JDB2200
B.	CONTRACTOR 2P/200A C/H
C.	H-O-A SWITCH SQ. D. 9001 KYK-111
D.	RESERVED
E.	BREAKER 1P/15A C/H EHD1015
F.	SURGE ARRESTOR EDCO SHA 2403
G.	CONTROL RELAY MAGNECRAFT W38ACX-9
H.	NEUTRAL BUS
I.	BRANCH BREAKER 2P/70A C/H EHD2030
J.	PHOTOCELL FISHER-PIERCE FA-105M
K.	GROUND BUS
N.	RECEPTACLE 20A GFCI LEVITON 6899
O.	DOOR SWITCH OMRON A20GQ7BK
P.	LIGHT FIXTURE RAB VX 100DG
Q.	METER FITTING MILBANK U8949

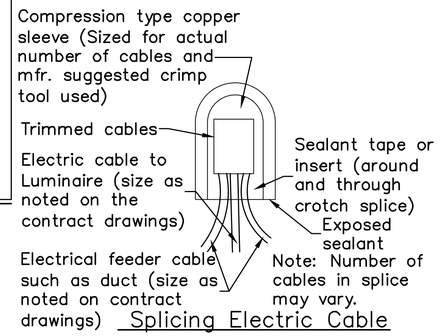


Light Pole Wiring – (Typical)

240/120 Volt 1 Phase 4 Wire

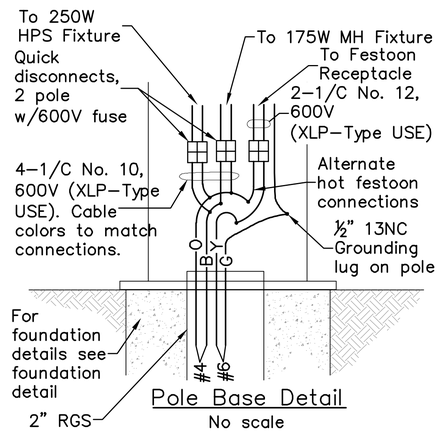
General Notes

- The contractor shall submit detailed shop drawings or catalog cuts for all equipment & materials to the City of Joliet for approval prior to fabrication or installation. Failure to submit and approve material may result in unaccepted work and/or reinstallation
- The streetlight system shall be installed in accordance to the most current addition of the "District One Recurring Special Provisions for Roadway Lighting", the "National Electric Code" and "AASHTO".
- All conductors shall be copper with an XLP/USE insulation rating
- The contractor shall provide the service connection & meter assembly for Commonwealth Edison. All coordination shall be the responsibility of the contractor.
- The electrical meter shall be Installed on the side of the controller opposite that of oncoming traffic.
- Two raceways or conduits shall be provided for each streetlight foundation. A junction of three raceways or conduits shall utilize a handhole.
- Prior to beginning construction, the contractor shall contact the City of Joliet Electrical Division at (815)724-3661 to arrange an onsite project meeting. Confirmation of all approved materials and addressing any final questions shall take place at this time.
- Foundation inspections will be required prior to pouring. All conduit between streetlight controller and service connection shall be rigid galvanize steel conduit.
- Waterproof inline fuses (5Amp) are to be installed at the streetlight transformer base.



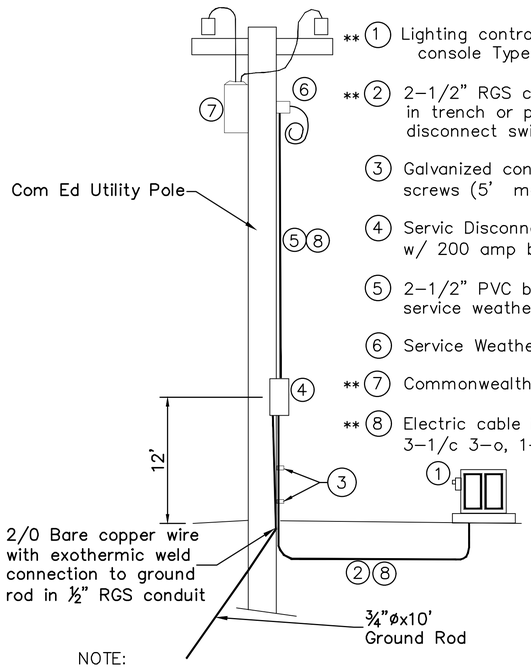
Splicing Electric Cable

No scale



Pole Base Detail

No scale



** ① Lighting control cabinet, console Type III

** ② 2-1/2" RGS conduit in trench or pushed between cabinet and service disconnect switch

③ Galvanized conduit clamps and galvanized lag screws (5' maximum spacing)

④ Servic Disconnect Switch– NEMA 3R enclosure w/ 200 amp breaker and nuetral buss

⑤ 2-1/2" PVC between disconnect switch and service weatherhead

⑥ Service Weatherhead

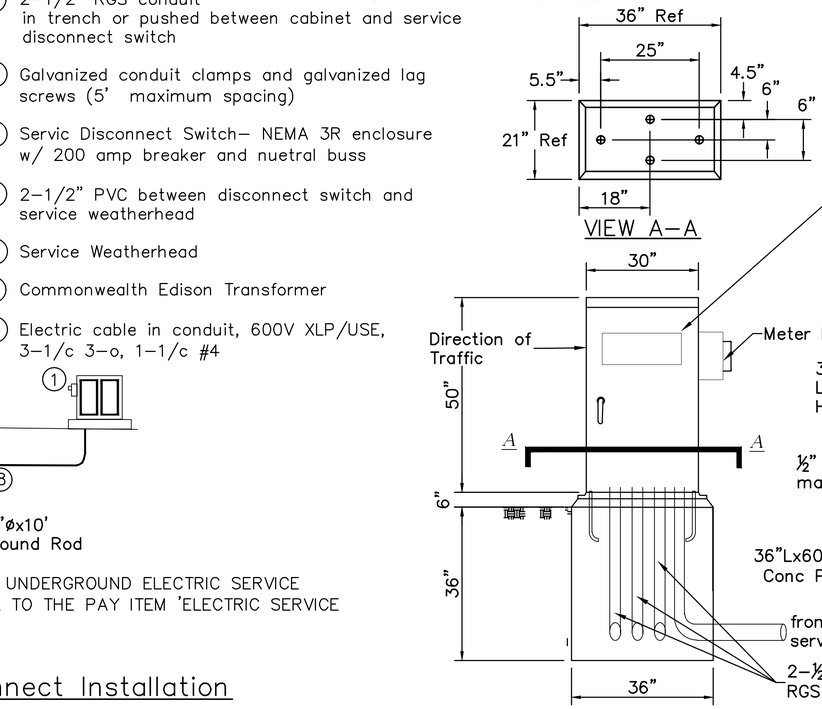
** ⑦ Commonwealth Edison Transformer

** ⑧ Electric cable in conduit, 600V XLP/USE, 3-1/c 3-o, 1-1/c #4

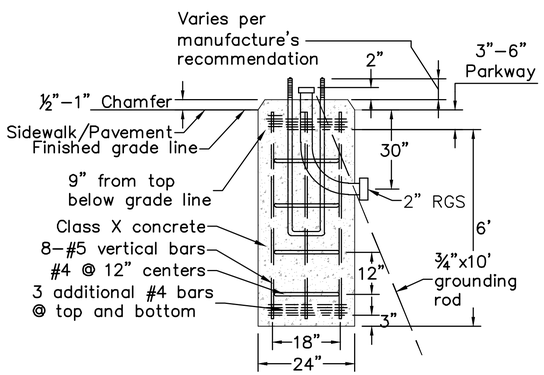
NOTE:
ALL ITEMS UNDER OVERHEAD AND UNDERGROUND ELECTRIC SERVICE SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM 'ELECTRIC SERVICE INSTALLATION'

** EXISTING ITEMS

Electric Service Disconnect Installation



Cabinet & Foundation Detail



Street Light Pole Foundation Type A (typical)

No scale

Note: The depth of foundation may be reduced 6" for every foot of rock encountered with a minimum depth of 4' for pedestrian poles and 5' for major poles. Rebar shall be drilled in and epoxyed to the existing rock.

Public Works Construction Standards
Street Light Requirements

SCALE: NONE | DATE: March 2024 | SHEET 31 OF 39

CHECKED BY: GPR | DESIGNED BY: SWM | DRAWN BY: SWM

CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
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150 WEST JEFFERSON STREET
JOLIET, ILLINOIS 60432
PHONE (815) 724-4200
PUBLICWORKS@JOLIET.GOV

LICENSE PLATE RECOGNITION (LPR) CAMERA PERMIT AND INSTALLATION REQUIREMENTS

THE FOLLOWING REQUIREMENTS MUST BE MET FOR PERMISSION TO INSTALL A LPR CAMERA WITHIN PUBLIC RIGHT-OF-WAY IN THE CITY OF JOLIET:

SECTION A: GENERAL REQUIREMENTS

1) All requests for LPR camera installations, removals or relocations located within the public right-of-way within the City of Joliet corporate limits shall be submitted to the Department of Public Works for review and approval. The submittal shall be sent to the Director of Public Works via the email address publicworks@joliet.gov. Locations on private property will not require a permit from the City of Joliet.

2) A master log of all existing approved locations, within the public right-of-way will be kept on file. This log will detail the location, installation type and roadway jurisdiction. **Any non-approved installations may be removed.**

3) A GIS database showing current and proposed cameras, the respective camera number designation, camera locations and their status shall be maintained and shared with the City of Joliet

4) All installations that require excavation must contact JULIE for a utility locate request. **The site contact name and phone number provided to JULIE must be the technician or contractor performing the excavation, not the general company information.**

5) Proper traffic control must be used during any installation or maintenance activities. All applicable IDOT traffic control standards must be followed.

6) All devices that are attached to poles or posts shall be properly secured with approved stainless-steel banding and buckles. The approved banding materials are included in this document.

7) Excessive cable between devices shall be properly trimmed and terminated.

SECTION B: INSTALLATIONS WITHIN THE CITY OF JOLIET RIGHT-OF-WAY

1) Prior to performing an installation or maintenance task of a LPR camera attached to any City owned facility, the technician performing the work shall notify the City of Joliet Electric Division staff via phone or email.

Phone: (815) 724-3661
Cell: (815) 955-4975
Email: tnimon@joliet.gov

2) When follow up work needs to be completed by the City of Joliet Electric Division, e.g., wiring an AC powered camera, the Flock technician shall send a request for the work to be done via email to: tnimon@joliet.gov **LPR technicians are not authorized to perform any electrical connections to the City's electrical infrastructure.**

3) All standalone pole installations shall be constructed per the attached City of Joliet approved post and foundation design. The City of Joliet Electric Division will need to be notified to perform a pre-pour inspection of the foundation excavation. **Failure to notify the City and receive approval to pour concrete will result in an unapproved installation. All unapproved foundations will need to be removed and replaced.**

SECTION C: INSTALLATIONS WITHIN THE STATE, COUNTY OR TOWNSHIP RIGHT-OF-WAY

1) All LPR camera locations proposed along a State Route, County Highway or Township Road will require a permit from the appropriate agency. The City of Joliet will require a copy of the permit prior to issuing formal approval of the new location.

2) Prior to performing an installation or maintenance task of a LPR camera attached to any City owned facility, the technician performing the work shall notify the City of Joliet Electric Division staff via phone or email.

Phone: (815) 724-3661
Cell: (815) 955-4975
Email: tnimon@joliet.gov

3) When follow up work needs to be completed by the City of Joliet Electric Division, e.g., wiring an AC powered camera, the Flock technician shall send a request for the work to be done via email to: tnimon@joliet.gov **LPR technicians are not authorized to perform any electrical connections to the City's electrical infrastructure.**

LPR Camera Permit and Installation Requirements Updated May 26, 2023

Public Works Construction Standards
LPR & Flock Requirements
SCALE: NONE
DATE: March 2024
SHEET 32 OF 39
CHECKED BY: GPR
DESIGNED BY: SWM
DRAWN BY: SWM
CITY OF JOLIET DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
(815)-724-4200

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STATE OF ILLINOIS
STANDARD CONFIGURATION DETAILS
AUTOMATIC LICENSE PLATE READER AND SOLAR PANEL SYSTEM
(X-SQRD BREAKAWAY SYSTEM)

INDEX OF SHEETS

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S-1	GENERAL NOTES & POLE ASSEMBLY DETAIL	0
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PROJECT INFORMATION:

STANDARD
CONFIGURATION DETAILS
(X-SQRD BREAKAWAY SYSTEM)
AUTOMATIC LICENSE
PLATE READER AND
SOLAR PANEL SYSTEM

PLANS PREPARED BY:

Kimley»Horn

817 WEST PEACHTREE STREET,
NW, SUITE 601,
ATLANTA, GA 30308
PHONE: (404) 419-8700
WWW.KIMLEY-HORN.COM

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LICENSER:

LICENSED STRUCTURAL ENGINEER
DAVID MICHAEL FRANKLIN
081-008035
STATE OF ILLINOIS
8/18/23

KHA PROJECT NUMBER:

014681002

DRAWN BY:	CHECKED BY:
GJV	DMF

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

T-1

Public Works Construction Standards
LPR & Flock Requirements

SCALE: NONE
DATE: March 2024
SHEET 33 OF 39

CHECKED BY: GPR
DESIGNED BY: SWM
DRAWN BY: SWM

CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
(815)-724-4200

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K:\RAL_Wireless\Flock Safety\KHRAL-XXXXX (IL) (X-Squared No Raven)\CAD\FLOCK_POLE_DETAIL_XSQRD_R0.dwg ---- 08/18/23 8:09 AM by: greg.vanmaaren

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DESIGN NOTES

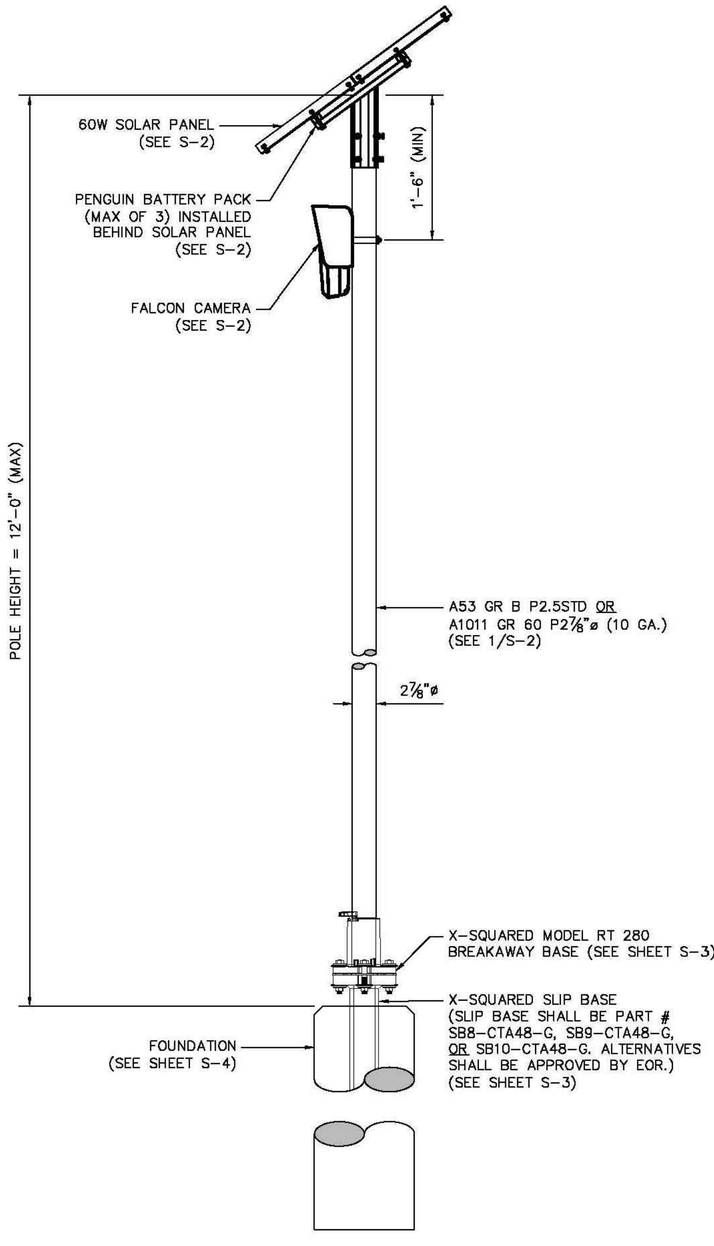
1. POLE AND FOUNDATIONS ARE DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODES:
   - 1.1. 2012 INTERNATIONAL BUILDING CODE, 2015 INTERNATIONAL BUILDING CODE, 2018 INTERNATIONAL BUILDING CODE, 2021 INTERNATIONAL BUILDING CODE
   - 1.2. AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORT FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 2015 EDITION.
2. POLE ANALYSIS AND FOUNDATION DESIGN ARE BASED ON THE FOLLOWING CRITERIA:
   - 2.1. DESIGN WIND SPEED (Vult): 115 MPH (MAXIMUM)
   - 2.2. RISK CATEGORY: II
   - 2.3. EXPOSURE CATEGORY: C
   - 2.4. TOPOGRAPHIC CATEGORY: 1
   - 2.5. SEISMIC DESIGN CRITERIA:
     - 2.5.1. SOIL SITE CLASS: D (ASSUMED)
     - 2.5.2. SPECTRAL RESPONSE, Ss: 1.000g (MAXIMUM)
     - 2.5.3. SPECTRAL RESPONSE, S1: 0.004g (MAXIMUM)
     - 2.5.4. SEISMIC DESIGN CATEGORY: B
   - 2.6. STRUCTURE BASE REACTIONS ARE CALCULATED AS FOLLOWS:
     ULTIMATE BASE MOMENT: 2,400 LB–FT
     ULTIMATE BASE SHEAR: 250 LB
     ULTIMATE BASE AXIAL: 150 LB
   - 2.7. SHOULD ANY OF THE SITE–SPECIFIC PARAMETERS BE HIGHER THAN WHAT IS NOTED ABOVE, THE EOR SHALL BE CONTACTED TO PROVIDE A REVISED DESIGN.
3. POLE STRUCTURE SHALL BE INSTALLED ON A FOUNDATION WITH A FLAT BEARING SURFACE. THE TOP OF THE TOP OF THE FOUNDATION OUTSIDE OF THE BASE PLATE FOOTPRINT SHALL BE SLOPED BETWEEN 1° AND 3° TO ALLOW FOR ADEQUATE DRAINAGE.
4. THE PROPOSED DETAILS OF THIS DRAWING SHALL NOT BE USED WHERE SOILS CONSIST OF SOFT CLAY, PEAT, OR SOIL WHERE A SMALL DIAMETER REBAR (#5 OR SMALLER) OR METAL PROBE PENETRATES EASILY INTO THE SOIL BY MORE THAN 6" WHEN THE FULL WEIGHT OF A PERSON IS APPLIED. IF UNEXPECTED SOIL IS FOUND ON SITE, THE CONTRACTOR SHALL CONTACT THE EOR FOR DIRECTION.

GENERAL & CONSTRUCTION NOTES

1. CONTRACTOR SHALL CONTACT DESIGNATED AGENCY TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL APPLY AND OBTAIN AN APPROVED TRAFFIC CONTROL PLAN IN ACCORDANCE WITH MUTCD AND LOCAL JURISDICTION STANDARDS.
3. CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO ORIGINAL SITE CONDITION TO THE SATISFACTION OF STATE DEPARTMENT OF TRANSPORTATION AND LOCAL JURISDICTION.
4. ALL WORK SHALL CONFORM TO APPLICABLE ELECTRICAL CODES EXCEPT WHEN STATE DEPARTMENT OF TRANSPORTATION OR LOCAL JURISDICTION STANDARDS SUPERSEDE.
5. POLE AND PROPOSED EQUIPMENT SHALL BE CONNECTED TO SOLID BARE BOND GROUND AND GROUNDING ROD IN POLE FOUNDATION.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH SPECIFICATIONS DEFINED BY THE STATE DEPARTMENT OF TRANSPORTATION OR LOCAL JURISDICTION, UNLESS SPECIFICALLY STATED OR SHOWN OTHERWISE HEREIN.

ADA COMPLIANCE NOTES

1. ALL SIDEWALK CONSTRUCTION SHALL BE IN ACCORDANCE WITH ADA TITLE II, STATE DEPARTMENT OF TRANSPORTATION, AND LOCAL JURISDICTION STANDARDS.
2. STATE DEPARTMENT OF TRANSPORTATION CURRENT EDITION STANDARDS SHALL BE USED FOR PEDESTRIAN CONTROL PLANS WHEN CLOSURE OF SIDEWALK IS REQUIRED FOR CONSTRUCTION.
3. MINIMUM CLEAR PEDESTRIAN ACCESS ROUTE (PAR) SHALL BE 48" WIDE.
4. NO OBSTRUCTION IS PERMITTED ALONG THE WIDTH OF THE SIDEWALK, UP TO AN ELEVATION OF 7'–0" ABOVE GRADE.



1/S-1 POLE ELEVATION DETAIL
SCALE: N/A

flock safety

PROJECT INFORMATION:
STANDARD CONFIGURATION DETAILS (X-SQRD BREAKAWAY SYSTEM) AUTOMATIC LICENSE PLATE READER AND SOLAR PANEL SYSTEM

PLANS PREPARED BY:

Kimley»Horn
817 WEST PEACHTREE STREET, NW, SUITE 601, ATLANTA, GA 30308
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DAVID MICHAEL FRANKLIN
081-008035
STATE OF ILLINOIS
8/18/23

KHA PROJECT NUMBER:
014681002

DRAWN BY:	CHECKED BY:
GJV	DMF

SHEET TITLE:
GENERAL NOTES AND POLE ASSEMBLY DETAIL

SHEET NUMBER:
S-1

Public Works Construction Standards
LPR & Flock Requirements

SCALE: NONE	DATE: March 2024	SHEET 34 OF 39
CHECKED BY: GPR	DESIGNED BY: SWM	DRAWN BY: SWM

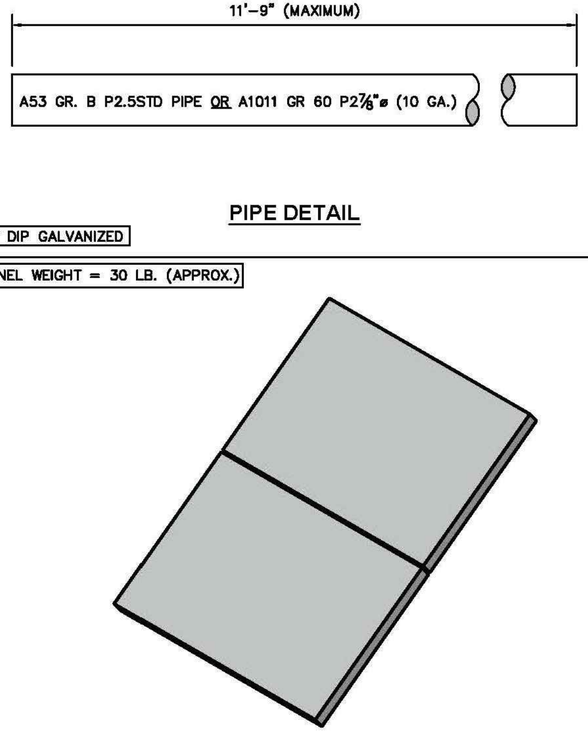
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150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
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PIPE DETAIL

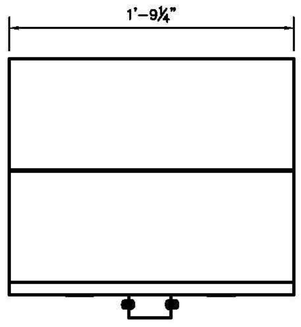
PIPE SHALL BE HOT DIP GALVANIZED

NOT USED

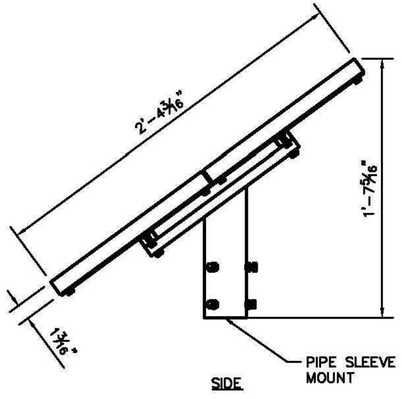
NOT USED

60 WATT SOLAR PANEL WEIGHT = 30 LB. (APPROX.)

ISOMETRIC



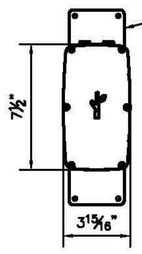
FRONT



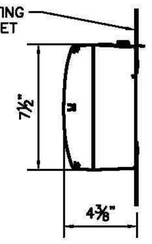
SIDE

MOUNTING HARDWARE TO BE PROVIDED BY FLOCK SAFETY

60 WATT SOLAR PANEL DETAIL (TOP MOUNTED)



FRONT



SIDE

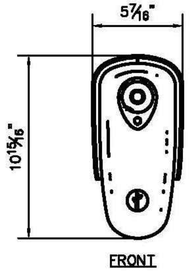


ISOMETRIC

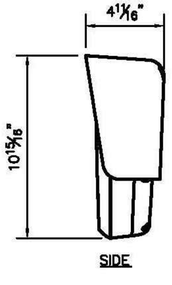
"PENGUIN" BATTERY PACK WEIGHT = 5 LB. (APPROX.)

"PENGUIN" BATTERY PACK

BATTERY PACKS TO BE MOUNTED BEHIND 60W SOLAR PANEL



FRONT



SIDE



ISOMETRIC

"FALCON" CAMERA WEIGHT = 5 LB. (APPROX.)

FLOCK SAFETY "FALCON" CAMERA

MOUNTING HARDWARE TO BE PROVIDED BY FLOCK SAFETY

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PROJECT INFORMATION:

STANDARD CONFIGURATION DETAILS (X-SQRD BREAKAWAY SYSTEM) AUTOMATIC LICENSE PLATE READER AND SOLAR PANEL SYSTEM

PLANS PREPARED BY:

Kimley»Horn
817 WEST PEACHTREE STREET, NW, SUITE 601,
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LICENSER:

LICENSED STRUCTURAL ENGINEER
DAVID MICHAEL FRANKLIN
081-008035
STATE OF ILLINOIS
8/18/23

KHA PROJECT NUMBER: 014681002

DRAWN BY:	CHECKED BY:
GJV	DMF

SHEET TITLE: EQUIPMENT DETAILS

SHEET NUMBER: S-2

Public Works Construction Standards
LPR & Flock Requirements

SCALE: NONE | DATE: March 2024 | SHEET 35 OF 39

CHECKED BY: GPR | DESIGNED BY: SWM | DRAWN BY: SWM

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DEPARTMENT OF PUBLIC WORKS
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(815)-724-4200

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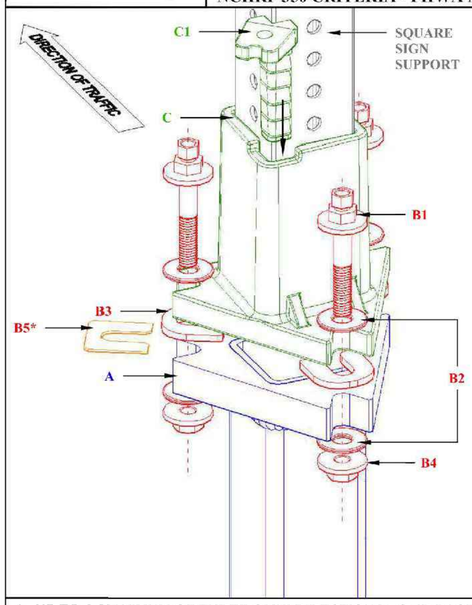
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INSTALLATION GUIDE **REDI-TORQUE MODEL 280** OMNI DIRECTIONAL SLIP BASE
(COMBINATION ANCHOR WITH LOWER SLIP PLATE). RECEIVES SQUARE SIGN SUPPORT

XCESSORIES SQUARED Development & Manufacturing Inc.

RT280U-SQ1	MASH-16 COMPLIANT FOR INTERSECTIONS and MAINLINE ROADWAYS NCHRP 350 CRITERIA - FHWA ACCEPTANCE LETTERS SS-134 & SS-134A	August 13, 2021	XCESSORIES SQUARED DEV. & MFG. CO., INC. AUBURN, IL 62615 TEL: (800) 621-7948 FAX: (217) 438-3917 www.x-sqrd.com



PARTS LIST

A: Unibase - Lower Slip Plate

ITEM	QTY	DESCRIPTION
A	1	Combination Anchor/Lower Slip Plate

B: Redi-Torque Match Plate Hardware

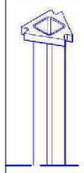
ITEM	QTY	DESCRIPTION
B1	3	½"-13 x 3" Gr. 8 Redi-Torque Bolt
B2	6	5/8" U.S.S. Flat Washer
B3	3	7/16" thick, Teflon Coated Slip Washer
B4	3	½"-13 Gr. 8 large diameter Flange Nut
B5*	0	1/16" thick Leveling Shim

* may not be necessary for every installation

C: Upper Slip Plate Sub-Assembly

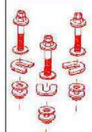
ITEM	QTY	DESCRIPTION
C	1	Top Receiver for Square Sign Support
C1	1	Square Sign Support Locking Wedge

STEP A



1. Install appropriate Unibase **(A)** plumb & squared up with road, with point of triangular slip plate facing oncoming traffic.
2. Depth of embeddment to leave 2-½" (1 1/2"-½") from grade to top of Lower Slip Plate of Unibase **(A)**.
   NOTE: *For soil or concrete installation options, see details at lower left.*
   NOTE: *If installing in concrete, auger the footing hole shallow enough to be able to drive 3-4 inches of Unibase* **(A)** *into the bottom of the hole. This will help stabilize the unit as concrete is being poured and cured while also allowing for proper drainage.*
   NOTE: *On multi-leg installations, be sure that all Unibases are squared & lined up with each other.*

STEP B



1. Place one each teflon coated Slip Washer **(B3)** on top of Lower Slip Plate of Unibase **(A)** at each notched point with open end of slot facing center of triangular slip plate. Leave enough room between the closed ends of the slot/notch to allow Ø⅝" Redi-Torque Bolt **(B1)** to pass through.
2. Place Upper Slip Plate **(C)** onto the three Slip Washers **(B3)** properly indexed so that square post receiver portion is squared up with road.
3. Slide 1 each ⅝" Flat Washer **(B2)** on to each Redi-Torque Bolt **(B1)** then insert Bolt **(B1)** with Washer **(B2)** down through notched points of Upper Slip Plate **(C)**, slot of Slip Washer **(B3)** and notched point of Lower Slip Plate of Unibase **(A)**.
4. slide 1 each ⅝" Flat Washer **(B2)** up on exposed thread of each Bolt **(B1)** followed by threading 1 each ½" Flange Nut **(B4)** on to each Bolt **(B1)** one half turn past finger tight.

NOTE: *When tightening bolts during this step use the ¾" (larger) hex and* ***NOT*** *the 7/16" (smaller) hex.*

STEP C



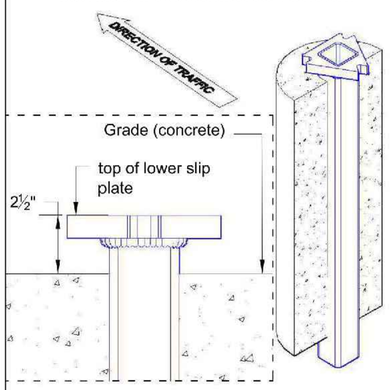
1. Insert Square Sign Support into Upper Slip Plate **(C)** receiver until support bottoms out.
2. With a hand held hammer, drive the square sign support Locking Wedge **(C1)** into the Upper Slip Plate **(C)** receiver at the pre-determined corner, marked by a ¼" notch. (The Locking Wedge does not need to be driven flush with top of Upper Slip Plate receiver)

*__SHIMMING:__ Before moving on to **step 3**, check the plumb of the sign support(s). If necessary, 1/16" thick Leveling Shim(s) **(B5)** may be used at the appropriate point(s) between slip plates. To replumb, loosen Bolt **(B1)** at desired point enough to lean the Upper Slip Plate **(C)** back and slide Leveling Shim **(B5)** into place. Shim(s) should be placed under Teflon Coated Slip Washer. *Maximum of 2 each Leveling Shims per notched point.*

3. After Locking wedge **(C1)** is securely in place. loosen each Bolt **(B1)** and Nut **(B4)**, one at a time, then retighten each Bolt **(B1)**, using the 7/16" (smaller) hex, until the 7/16" hex head twists off from the ¾" hex head. This will set the proper torque level.

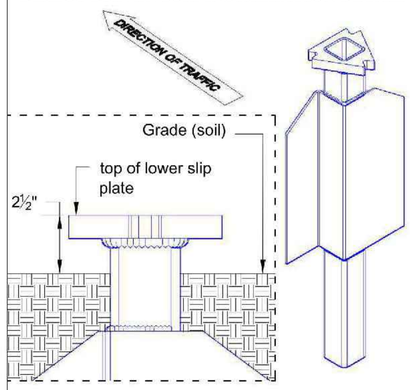
1. **UP TO A MAXIMUM OF THREE OMNI DIRECTIONAL SLIP BASES WITH REDI-TORQUE MODEL 280 MATCHPLATE HARDWARE MAY BE INSTALLED WITHIN A SEVEN FOOT SPAN ON MAINLINE ROADWAY.**
2. **FOR ADDITIONAL WINDLOAD CAPABILITY, A POST OF THE NEXT SIZE SMALLER MAY BE INSERTED INTO THE SQUARE SIGN SUPPORT A MIMIMUM OF FOUR FEET AT THE BOTTOM OF THE SUPPORT.**

***CONCRETE* INSTALLATION DETAIL**



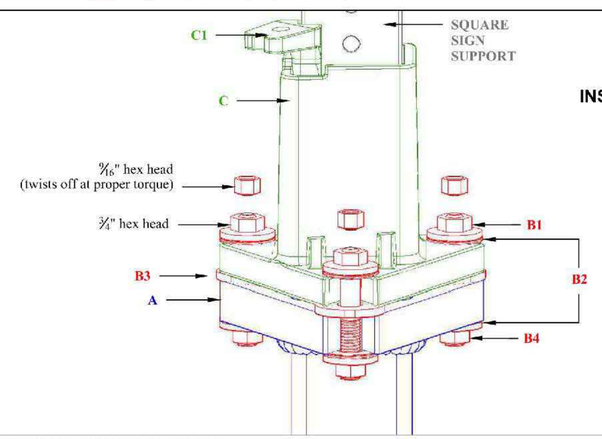
NOTE: Recommended footing size a minimum of 12" in diameter and 30" deep.

DIRECT DRIVEN *SOIL* INSTALLATION DETAIL



NOTE: Install with the widest bearing surface of the stabilizing wing parallel with the face of the sign.

INSTALLED VIEW (FRONT)



REINSTALLATION PROCEDURE:

NOTE: All match plate hardware components are generally reusable except the Redi-Torque Bolts **(B1)**

1. Remove sign support Locking Wedge **(C1)** from Upper Slip Plate**(C)** receiver with a hand held hammer.
2. Place Upper Slip Plate**(C)** on Lower Slip Plate of Unibase **(A)** to check for warpage and level of slip plates.
3. Visually check all welds and castings for fractures or other damage.
4. When assured both Lower Slip Plate **(A)** and Upper Slip Plate **(C)** are reusable employ new or reused hardware **(B)** with NEW Redi-Torque Bolts **(B1)** then follow installation procedures, starting with **STEP B**.

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KHA PROJECT NUMBER: 014681002

DRAWN BY:	CHECKED BY:
GJV	DMF

SHEET TITLE: EQUIPMENT DETAILS

SHEET NUMBER: S-3

Public Works Construction Standards
LPR & Flock Requirements

SCALE: NONE	DATE: March 2024	SHEET 36 OF 39
CHECKED BY: GPR	DESIGNED BY: SWM	DRAWN BY: SWM

CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
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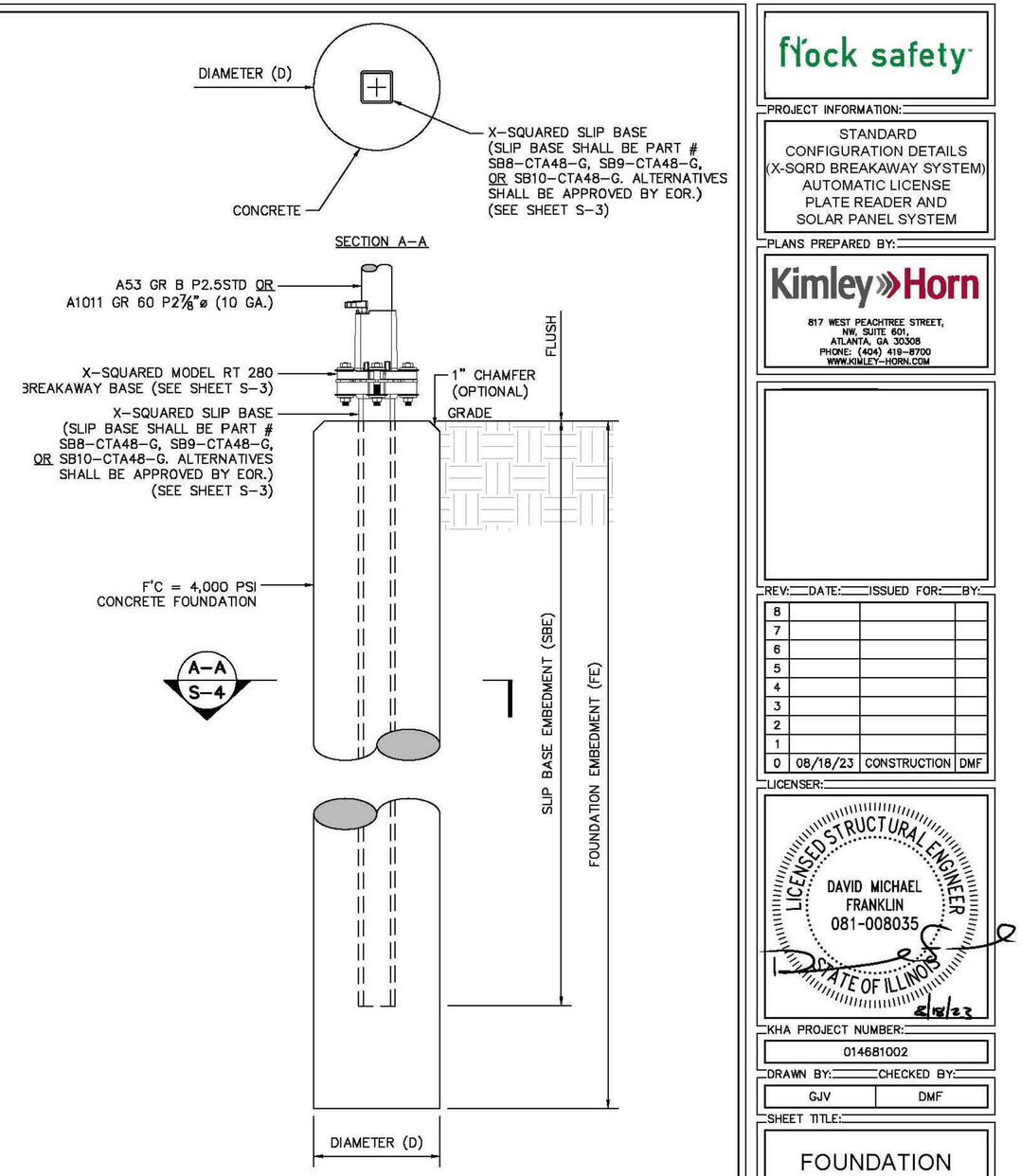
FOUNDATION DESIGN NOTES

1. FOUNDATION DESIGN REACTIONS ARE BASED ON INTERNAL CALCULATIONS BY KIMLEY-HORN. ANALYSIS CRITERIA CAN BE FOUND ON SHEET S-1.
2. FOUNDATION MAY BE CAST-IN-PLACE, OR PRECAST.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI
   - 3.A. MIX DESIGN TO BE IN ACCORDANCE WITH ACI 318, CHAPTER 26
   - 3.B. COARSE AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33 SIZE #57
   - 3.C. COLD WEATHER PLACEMENT SHALL COMPLY WITH ACI 306.1
   - 3.D. HOT WEATHER PLACEMENT SHALL COMPLY WITH ACI 305 R
4. ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 1"
5. CONTRACTOR SHALL VERIFY THAT THE PROPOSED FOUNDATION CAN BE BUILT AS SHOWN. CONTRACTOR SHALL OBTAIN EOR APPROVAL FOR ANY CHANGES TO THE PROPOSED DESIGN.
6. CONTRACTOR SHALL FIELD VERIFY THE PRESENCE OF GROUNDWATER IN THE TOP 10-FT OF SOIL PRIOR TO CONSTRUCTION. IF GROUNDWATER IS ENCOUNTERED, ONE OF THE FOLLOWING METHODS SHALL BE IMPLEMENTED:
   - 6.A. THE CONTRACTOR SHALL PUMP EXCESS WATER OUT OF A BORE HOLE THROUGHOUT INSTALLATION PROCESS.
   - 6.B. THE FOUNDATION MAY BE INSTALLED INSIDE INSIDE OF A SONOTUBE THAT EXTENDS TO THE FULL EMBEDMENT DEPTH. SOIL BACKFILL SHALL BE PROPERLY COMPACTED TO A MINIMUM OF 95% OF STANDARD MAXIMUM DENSITY (ASTM D 698, 100 PCF MINIMUM).
   - 6.C. A PL¼" TEMPORARY CASING MAY BE USED DURING INSTALLATION. THE CASING SHALL BE EXTRACTED AS THE CONCRETE IS PLACED SUCH THAT A HEAD OF CONCRETE IS MAINTAINED ABOVE THE BOTTOM OF THE CASING TO PREVENT WATER INTRUSION INTO THE CONCRETE MIX.

FOUNDATION DESIGN TABLE		
DIAMETER (D)	FOUNDATION EMBEDMENT (FE)	SLIP BASE EMBEDMENT (SBE)
12"ø (SEE NOTE 2.1)	5'-0" (SEE NOTE 2)	3'-3" (MINIMUM)

DESIGN TABLE NOTES:

1. DRAWINGS DENOTE A GENERIC FOUNDATION CONFIGURATION AND ARE NOT TO SCALE. REFER TO FOUNDATION DESIGN TABLE FOR DETAILS.
2. FOUNDATION EMBEDMENT (FE) SHALL BE THE MAXIMUM OF THE DIMENSIONS SPECIFIED, OR 6" BELOW THE FROST DEPTH APPLICABLE TO THE SITE LOCATION. CONTRACTOR SHALL VERIFY FROST DEPTH PRIOR TO CONSTRUCTION. SEE SHEET R-1 FOR ADDITIONAL INFORMATION.
   - 2.1. FOR FOUNDATION EMBEDMENTS (FE) THAT EXCEED 6'-6" TO ACHIEVE FROST DEPTH REQUIREMENTS, THE FOUNDATION DIAMETER SHALL BE 16"ø.



1 S-4 FOUNDATION DETAIL
SCALE: N/A

flock safety

PROJECT INFORMATION:

STANDARD CONFIGURATION DETAILS (X-SQRD BREAKAWAY SYSTEM) AUTOMATIC LICENSE PLATE READER AND SOLAR PANEL SYSTEM

PLANS PREPARED BY:

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PHONE: (404) 419-8700
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LICENSER:

LICENSED STRUCTURAL ENGINEER
DAVID MICHAEL FRANKLIN
081-008035
STATE OF ILLINOIS
8/18/23

KHA PROJECT NUMBER: 014681002

DRAWN BY:	CHECKED BY:
GJV	DMF

SHEET TITLE: FOUNDATION DETAILS

SHEET NUMBER: S-4

Public Works Construction Standards
LPR & Flock Requirements

SCALE: NONE	DATE: March 2024	SHEET 37 OF 39
CHECKED BY: GPR	DESIGNED BY: SWM	DRAWN BY: SWM

CITY OF JOLIET
DEPARTMENT OF PUBLIC WORKS
150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
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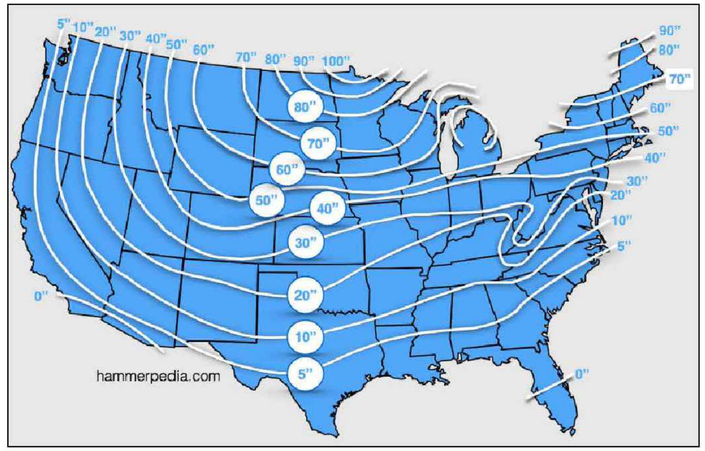
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FROST DEPTH NOTES

1. ESTIMATED FROST DEPTHS FOR VARIOUS COUNTIES ARE LISTED IN THE PROVIDED TABLES.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING FROST DEPTHS WITH THE LOCAL JURISDICTION REQUIREMENTS.



State	County	Design Frost Depth (in.)
IL	ADAMS	40
IL	ALEXANDER	20
IL	BOND	30
IL	BOONE	60
IL	BROWN	40
IL	BUREAU	50
IL	CALHOUN	30
IL	CARROLL	60
IL	CASS	40
IL	CHAMPAIGN	40
IL	CHRISTIAN	30
IL	CLARK	30
IL	CLAY	30
IL	CLINTON	30
IL	COLES	30
IL	COOK	50
IL	CRAWFORD	30
IL	CUMBERLAND	30
IL	DE KALB	60
IL	DEWITT	40
IL	DOUGLAS	40
IL	DU PAGE	50
IL	EDGAR	40
IL	EDWARDS	20
IL	EFFINGHAM	30
IL	FAYETTE	30
IL	FORD	40
IL	FRANKLIN	20
IL	FULTON	40
IL	GALLATIN	20
IL	GREENE	30
IL	GRUNDY	50
IL	HAMILTON	20
IL	HANCOCK	40
IL	HARDIN	20
IL	HENDERSON	40
IL	HENRY	50
IL	IROQUOIS	40
IL	JACKSON	20
IL	JASPER	30
IL	JEFFERSON	20
IL	JERSEY	30
IL	JO DAVIESS	60
IL	JOHNSON	20
IL	KANE	60
IL	KANKAKEE	40
IL	KENDALL	50
IL	KNOX	50
IL	LA SALLE	50
IL	LAKE	60

State	County	Design Frost Depth (in.)
IL	LAWRENCE	20
IL	LEE	60
IL	LIVINGSTON	40
IL	LOGAN	40
IL	MACON	40
IL	MACOUPIN	30
IL	MADISON	30
IL	MARION	30
IL	MARSHALL	40
IL	MASON	40
IL	MASSAC	20
IL	MCDONOUGH	40
IL	MCHENRY	60
IL	MCLEAN	40
IL	MENARD	40
IL	MERCER	50
IL	MONROE	30
IL	MONTGOMERY	30
IL	MORGAN	30
IL	MOULTRIE	30
IL	OGLE	60
IL	PEORIA	40
IL	PERRY	20
IL	PIATT	40
IL	PIKE	30
IL	POPE	20
IL	PULASKI	20
IL	PUTNAM	50
IL	RANDOLPH	20
IL	RICHLAND	30
IL	ROCK ISLAND	50
IL	SAINT CLAIR	30
IL	SALINE	20
IL	SANGAMON	40
IL	SCHUYLER	40
IL	SCOTT	30
IL	SHELBY	30
IL	STARK	50
IL	STEPHENSON	60
IL	TAZEWELL	40
IL	UNION	20
IL	VERMILION	40
IL	WABASH	20
IL	WARREN	40
IL	WASHINGTON	20
IL	WAYNE	20
IL	WHITE	20
IL	WHITESIDE	60
IL	WILL	50
IL	WILLIAMSON	20
IL	WINNEBAGO	60
IL	WOODFORD	40

Flock safety

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LICENSED STRUCTURAL ENGINEER
DAVID MICHAEL FRANKLIN
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STATE OF ILLINOIS
8/18/23

KHA PROJECT NUMBER: 014681002

DRAWN BY:	CHECKED BY:
GJV	DMF

SHEET TITLE: FROST DEPTH REQUIREMENTS

SHEET NUMBER: R-1

Public Works Construction Standards
LPR & Flock Requirements

SCALE: NONE | DATE: March 2024 | SHEET 38 OF 39

CHECKED BY: GPR | DESIGNED BY: SWM | DRAWN BY: SWM

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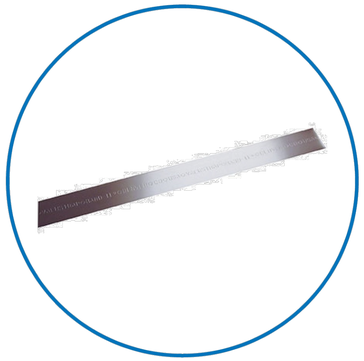
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BAND-IT® BAND: 201 STAINLESS STEEL BAND

This is the standard choice of BAND-IT products, offering very high strength, clean appearance and good resistance to oxidation and weathering. This non-magnetic material is the choice for municipal and industrial markets. Now with EASY SCALE®, a patented imprint on the band to determine band length. Eliminates costly waste and complicated measuring by allowing users to quickly and precisely roll out the length of band needed for any clamp. No more guesswork!



- 201 Stainless Steel offers good resistance to oxidation and many moderate corrosive agents
- Utilized in general use banding applications
- Can be used with clip style buckles to create band clamps
- Packaged in a standard box or a durable plastic tote for easy dispensing

BAND-IT®
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PRODUCT SPECIFICATIONS

PART NO.	MATERIAL	WIDTH (IN)	THICKNESS (IN)	AVERAGE BREAKING STRENGTH (LBS)	PACKAGE QUANTITY	WEIGHT (LBS)
C20299	201 SS	1/4	0.020	500	100'/Roll	1.7
C20399	201 SS	3/8	0.025	900	100'/Roll	3.2
C203Y9	201 SS	3/8	0.025	900	Yellow Tote 100'/Roll	3.6
C20499	201 SS	1/2	0.030	1500	100'/Roll	5.1
C204B9	201 SS	1/2	0.030	1500	Blue Tote 100'/Roll	5.5
C20599	201 SS	5/8	0.030	1875	100'/Roll	6.4
C205G9	201 SS	5/8	0.030	1875	Green Tote 100'/Roll	6.8
C20699	201 SS	3/4	0.030	2250	100'/Roll	7.7
C206R9	201 SS	3/4	0.030	2250	Red Tote 100'/Roll	8.2





RELATED PRODUCTS

BAND-IT® Buckle, Ear-Lokt Style



Scru-Lokt Buckle, Stainless Steel



C00169: Standard Banding Tool



C00369: Heavy Duty Banding Tool



C07569: Bantam Tool



C08569: Bantam Strapping Tool



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Public Works Construction Standards
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SCALE: NONE	DATE: March 2024	SHEET 39 OF 39
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150 W. JEFFERSON STREET, JOLIET, ILLINOIS 60431
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