STANDARD CONSTRUCTION OPERATING PROCEDURE

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION
Division of Infrastructure
Bureau of Construction

SCOP..... : 09 - 001G

CATEGORY.. : CONSTRUCTION
Subcategory : CONSTRUCTION

SUBJECT: MANUAL OF PRE-CONSTRUCTION & CRITICAL PHASE MEETING AGENDAS

Keywords ..... : Critical Phase Meeting
Pre-Construction Meeting

APPROVED: 2/23/09
Chief Construction Engineer - William Svilar, P.E.

Supersedes..... : 02-009G
Supplements..... : 01-008G, 08-008G
Sheet..... : 1 of 50

Issue Date..... : February 23, 2009

The following Pre-Construction and Critical Phase Meeting Agendas are to be used on all Infrastructure projects. The attached Agendas must be reviewed by the Resident Engineer prior to each scheduled meeting so as to tailor it to their specific project. While an effort was made to detail supplementary agendas for generic items of the contract, it should be noted that additional supplementary agendas may be necessary for specific projects.

These Agenda are to be reviewed with the field staff and contractors at Pre-construction and Critical Phase Meetings and documented in the project records.

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

DIVISION OF INFRASTRUCTURE

SCOP 09-001G

Manual of Pre-Construction & Critical Phase Meeting Agendas

Construction Support Unit

January 2009
DC99-1-381 to 429

Manual of
Pre-construction & Critical Phase Meeting Agendas

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SCOP 09-001G
PRE-CONSTRUCTION MEETING MINUTES

CONTRACT NO.: _____ **REGISTRATION NO.:** _____

PROJECT DESCRIPTION: _____

_____

MANAGING UNIT / BOROUGH: _____

CONTACTOR: _____ **SUPERVISION:** _____

MEETING DATE: _____ **LOCATION:** _____ **TIME:** _____

PROJECT CONTACTS:

	NAME	TELEPHONE NO.
Contractor: ----------		
Borough Director:----------		
Deputy Director: ----------		
Engineer-in-Charge: ----------		
Resident Engineer/REI Firm: --		
Community Construction Liaison:		
Project Manager: ----------		
Design Engineer: ----------		

OTHER INVITEES:

☐ Community Outreach, ☐ DDC-QA, ☐ DEP-Distribution Engineer, ☐ DOT -Traffic & Street Lighting, ☐ DOT-HIQA, ☐ Dept. of Parks and Recreation, ☐ N.Y.S. Public Service Commission (Mr. Kumar @ (212) 290-4387), ☐ Fire Dept., ☐ Community Board #___, ☐ Consolidated Edison, ☐ *National Grid*, ☐ Time Warner/*Cablevision*, ☐ Verizon/*ECS*, ☐ TA (Surface), ☐ TA (Subway),☐Other (List Below):

_____

_____

PROJECT DATA:

Bid Date: ---------- _____

Award Date: ---------- _____

Registration Date: ---------- ☐ Partial Registration Amount $: _____

Contract Time: ---------- _____

Commence Work Date: ------- _____ Holiday Embargo _____

Scheduled Completion Date: - _____ Other Embargos _____

Contract Amount: ---------- _____

Federal/State Funds ---------- ☐ Yes ☐ No

MEETING OUTLINE

PART A - GENERAL ISSUES / OPEN MEETING

GENERAL ITEMS

- Introduction of attendees.
- Brief description of project type/goals/limits.
- Construction schedule overview.
- Project staffing - chain of command.

PRECONSTRUCTION ISSUES

- Community Board issues/meeting.
- Community Outreach issues.
- Construction notice to residents.
- Construction notice to City Agencies, MTA, etc.
- Block meetings.
- DEP Distribution/shutdown/water issues.
- DOT Traffic & Street Lighting issues.
- OCMC (Traffic) meeting / MPT requirements.
- Surface (Bus) Transit Authority issues.
- Subsurface (Subway) Transit Authority issues.
- Parks Department issues.
- Fire Department issues.
- NYS Public Service Commission issues.
- Utilities - status of relocations/section "U" negotiations.
- Office of Contract Opportunity (OCO) - Submit plan for project's subcontracting requirements for approval (Local (LBE), Woman (WBE) & Minority (MBE) Business Enterprises).
- Approved field office (proposed location, size, equipment, etc.).
- Proposed location of temporary storage yard.

Other Attendees' Issues:

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

PART B – CONSTRUCTION DETAILS

(Note: Attendees Other Than Contractor and Construction Personnel May Leave the Meeting at This Time.)

PRECONSTRUCTION SUBMITTALS

- All submittals to R.E./E.I.C. (except as noted - then copy R.E./E.I.C.).
- Submit material testing laboratory for approval.
- Submit vendors for approval to DDC - Director of Quality Assurance (3rd Floor 30-30 Thomson).
  - Asphalt, Brick, Castings, Clean Fill, Concrete, Filter Fabric, Piles, Precast Products, Pipe, Select Fill, Steel (Reinforcing and Structural), Stone, Water Main Fittings and Valves, etc.
- Submit design mixes for approval to RE/EIC; RE/EIC will transmit to DDC - Director of Quality Assurance (3rd Floor 30-30 Thomson) after review.
  - Asphalt, Concrete (2 week minimum turn-around).
- Submit Subcontractor Approval Requests to: DDC Attn: Subcontractor Liaison (3rd Floor 30-30 Thomson).
  - Electrical, Lathing, Lining, Pavement Markings, Paving, Piles, Plumbing, Restoration, Surveying, Tree Services/Landscaping, TV Inspection & Cleaning, Water Mains, Rodent Control, etc.
  - MBE, WBE and LBE requirements for project.
  - Maximum subcontract percentage (%) of bid as per Schedule "A".
- Shop drawings for approval (sheeting & bracing, drill sheets, etc.).
- Preconstruction Photos (including access route).
- Preconstruction Reports.
- Survey Monument Report - Contractor must maintain/replace all existing survey monuments.
- Submit construction progress schedule in Microsoft Project format for approval, monthly updates are required.
- Existing street sign/street hardware survey.
- MPT plan.
- _____
- _____
- _____

CONSTRUCTION ISSUES – GENERAL

- Project signs (type and location).
- Project layout (survey).
- Permits (street opening, storage, trailer connections, dewatering/discharge (DEP/DEC)).
- Storage on private/public property (lease/permits required).
- Dept. of Sanitation (DOS) temporary stockpile location/approval requirements.
- Contractor must provide experienced superintendent.
- Respond promptly to R.E./DDC directives.
- Progress and Critical Phase meetings to be held.

- Transportation for engineer.
- Workforce/equipment must be sufficient to complete project on schedule.
- Contractor must provide daily reports of work performed (personnel, equipment, materials, etc.).
- Labor Law 220 - Prevailing Wage Requirements.
  - Post notices, daily sign-in sheets, distribute notices, ID badges, subcontractors must comply.
- Hours of work (no work prior to 7AM).
- Local Law 77 Requirements, Ultra Low Sulfur Diesel (ULSD) & BAT.
- Local Law 113 Requirements, Noise Mitigation Plan.
- Role of DDC Quality Assurance and Site Safety (QASS).
- HASP - Health and Safety Plans.
- JHA - Job Hazard Analysis.
- Commercial vehicle requirements for DDC haulers (see SCOP).
- Haulers must have proper permit and licenses.
- Construction waste to be properly disposed of (Contractor to provide affidavit at project completion).
- Hydrant locks will be removed by DEP if requested by DDC.
- Review NYS DEC wetlands map for proximity to project.
- Sanitation pickups to be coordinated, contractor to assist if necessary.
- Material samples/testing to be provided as required.
- Materials to be inspected by R.E., rejected materials to be marked/removed from site.
- Contractor's 24-hour emergency phone numbers - two required.
- Submit requests for information regarding plans/specification in writing.
- Submit requests to change locations of sewers, water mains and appurtenances in writing.
- All substitutions must be approved and are subject to credit.
- Extra/disputed work - Notify DDC in writing, submit daily T&M records for review.
- Critical Phase Meetings to be held prior to the start of all "Major Items of Work".
- Review project specific specifications/details (list items):

_____
_____
_____
_____

CONSTRUCTION ISSUES – SAFETY

(Review this section at the Pre-construction meeting. The safety section is identical to that included in the Critical Phase Meeting Agendas for Major Items of Work and should be reviewed again as required.)

- OSHA requirements to be discussed.
- HASP - Health and Safety Plans.
- JHA - Job Hazard Analysis.
- Designation of competent person (submit in writing).

- Air Monitors - Hazardous Atmospheres.
- Manhole Ventilation / No Smoking.
- Impalement protection.
- Hardhats and safety vests to be worn refer to JHA for additional Personal Protection Equipment (PPE) requirements.
- Lifting equipment must have valid inspection certificate from the Dept. of Buildings.
- The use of open hooks to lift materials will not be permitted. Hooks with safety latches, shackles and pins, or lifting apparatus with an approved safety release must be utilized.
- Tight fencing required around all excavations and other potentially hazardous areas.
- Materials to be safely and neatly stored. Barrels and fencing required.
- Maintenance and Protection of Traffic (MPT) to be as per specifications / approved drawings.
- Rodent control.
- Traffic/Street Lighting to be maintained.
- Notify Fire Dept. immediately if the Fire communication system is damaged.
- Discuss restrictions (if any) and precautions for work near schools.
- DDC Emergency Protocol (see SCOP).
- Fire/Police notification of temporarily blocked roads.

CONSTRUCTION ISSUES – UTILITIES

- Gas work (EP-7).
- Section "U"/ Joint Bid contract.
- "Order Out" notices must be requested in writing with sufficient justification.

CONSTRUCTION ISSUES – TREE PROTECTION

- Permits required for tree pruning/removal.
- Installation of tree guards required prior to starting work.
- Tree consultant/Parks Dept. must oversee work adjacent to trees.

CONSTRUCTION ISSUES – MAINTENANCE AND PROTECTION OF TRAFFIC (MPT)

- Review entire MPT & MOS supplement at the Pre-construction meeting.

CONSTRUCTION ISSUES – MAINTENANCE OF SITE (MOS)

- Review entire MPT & MOS supplement at the Pre-construction meeting.

CONSTRUCTION ISSUES – MAJOR ITEMS of WORK & SUPPLEMENTS

(Select & review the Critical Phase Meeting Agendas (CPMA) for the Major Items of Work & associated Supplements the Contractor plans to start with. It may be prudent to review sections of other CPMA(s) that require long lead items at this time. Check the box of the CPMA(s) and Supplements reviewed at the Pre-construction and note sections addressed if partially reviewed.)

Critical Phase Meeting Agendas Reviewed:

Major Items of Work	List sections addressed (just check box if reviewed in its entirety)
☐ Sewer (Pipes)	_____
☐ Distribution Water Main	_____
☐ Steel Trunk Water Main	_____
☐ Highway	_____

Supplements Reviewed:

Reinforced Concrete Sewers (Culvert)

☐ - Cast-in-place Culverts, Outlets & Chambers

☐ - Pre-cast Culverts

Pile Driving

☐ - Timber Piles

☐ - Steel/CFA/Mini Piles

☐ Street Lighting & Traffic Signals

☐ Street Name & Traffic/Regulatory Signs

☐ Fire Alarm/Communication System

☐ MPT & MOS

PAYMENTS

- Hand out and review Contractor's payment package.
- Handout and review Change Order package.
- Certified payrolls required for contractor and subcontractors.
- All material certifications must be submitted prior to payment.
- Percentage (%) breakdown of complex items must be provided in writing for approval.
- 125% Overruns subject to renegotiation.
- Approved partial time extension required prior to payment past original completion date.

OTHER MISCELLANEOUS/BOROUGH/PROJECT SPECIFIC ISSUES (List)

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

PRE-CONSTRUCTION MEETING
SIGN-IN SHEET

CONTRACT NO.: _____ **REGISTRATION NO.:** _____

PROJECT DESCRIPTION: _____

_____

MANAGING UNIT / BOROUGH: _____

CONTACTOR: _____ **SUPERVISION:** _____

MEETING DATE: _____ **LOCATION:** _____ **TIME:** ____

Attendees:

Name	Affiliation	Phone #	Fax #	E-mail Address

C: All Attendees

CRITICAL PHASE MEETING AGENDA – SEWER (PIPES)

CONTRACT NO.: _____ **REGISTRATION NO.:** _____

PROJECT DESCRIPTION: _____

_____

MANAGING UNIT / BOROUGH: _____

CONTACTOR: _____ **SUPERVISION:** _____

MEETING DATE: _____ **LOCATION:** _____ **TIME:** _____

MEETING OUTLINE

GENERAL ITEMS

- Introduction of Attendees.
- Current Construction Schedule Overview.
- Review of Latest Sewer Specifications
- Review of Standard Drawings
- Review of Contract Plans
- Review of Applicable SCOP(s) (attached)

SUBMITTALS AND APPROVALS (All submittals to RE / EIC except as noted - then copy RE / EIC).

- Design Mixes

  Asphalt Binder Base
  Asphalt Top
  Concrete - Structures
  - Roadway Base
  - Sewer Cradle/ Encasement

- Subcontractor/Services

  Material Testing Lab
  Engineering Surveys and/or Surveyors
  Other Technical Services

- Shop Drawings

  Curb/Gutter Survey & Profile
  Drill Sheets for Precast MH(s)
  Fluming Diagram
  Project Survey / Layout
  Sealed Cut Sheets
  Sheeting & Bracing Design & Calculations
  Temporary Pipe Supports

Traffic Control Plan
Trap Survey
Piles (see supplement)
Other: _____
Other: _____
Other: _____

- Vendors Submit for Approval to: DDC Director of Quality Assurance (3rd Fl., 30-30 Thomson).

	Submitted	Approved	Pending	Notes
Brick	☐	☐	☐	_____
Castings	☐	☐	☐	_____
Concrete	☐	☐	☐	_____
Clean Fill	☐	☐	☐	_____
Select Granular Backfill	☐	☐	☐	_____
M.H. Steps	☐	☐	☐	_____
Piles	☐	☐	☐	_____
Precast Products	☐	☐	☐	_____
Pipe (Concrete)	☐	☐	☐	_____
Pipe (ESVP)	☐	☐	☐	_____
Pipe (DIP)	☐	☐	☐	_____
Steel (Reinforcing)	☐	☐	☐	_____
Steel (Structural)	☐	☐	☐	_____
Stone	☐	☐	☐	_____
Other: _____	☐	☐	☐	_____
Other: _____	☐	☐	☐	_____

CONSTRUCTION ISSUES – SAFETY

- OSHA requirements to be discussed.
- Designation of competent person (submit in writing).
- Air Monitors – Hazardous Atmospheres.
- Manhole Ventilation / No Smoking.
- Impalement protection.
- Hardhats and safety vests to be worn refer to JHA for additional Personal Protection Equipment (PPE) requirements.
- Lifting equipment must have valid inspection certificate from the Dept. of Buildings.
- The use of open hooks to lift materials will not be permitted. Hooks with safety latches, shackles and pins, or lifting apparatus with an approved safety release must be utilized.
- Tight fencing required around all excavations and other potentially hazardous areas.
- Materials to be safely and neatly stored. Barrels, warning lights and fencing required.
- Maintenance and Protection of Traffic (MPT) to be as per specifications / approved drawings.
- Rodent control.
- Traffic/Street Lighting to be maintained.
- Notify Fire Dept. immediately if the Fire communication system is damaged.

- Discuss restrictions (if any) and precautions for work near schools.
- DDC Emergency Protocol (see SCOP 00-008G).
- Fire/Police notification of temporarily blocked roads.

CONSTRUCTION ISSUES – TRENCHING

- Utility Notification – Industrial Code Rule 753.
- Sawcutting of pavements required.
- Maximum trench widths payable.
- Pilot cut – Industrial Code Rule 23.
- Approved sheeting and bracing shop drawings must be followed.
- No personnel will be permitted in areas not properly sheeted and braced.
- Indentify and reconnect the house sewer connection for each property.
- Sheeting required over and under utilities and service crossings.
- Backfill required behind sheeting.
- Adequate soil dewatering and sufficiently dry sub-grade required.
- Steel plates not permitted as sheeting unless shown on approved drawings.
- Competent person to monitor sheeting and bracing.
- Ladder access – OSHA compliance.
- Fire hydrant access to be maintained.
- Pedestrian bridges to be installed as required.
- Exposed water services must be insulated to prevent freezing when temperatures are 35-degrees Fahrenheit (35° F) or less (see SCOP 00-001G).
- Water services with less than 3½ ft of cover must be permanently insulated (see SCOP 00-001G).
- Water service work to be performed by NYC licensed plumbers only.
- Water services repairs to be made from main to furthest repair point (one coupling maximum).

CONSTRUCTION ISSUES – SEWERS

- Layout/Survey controls by Licensed Surveyor (LS).
- Cut sheets by LS or Professional Engineer (PE).
- Elevations of tie-in points must be verified prior to commencing sewer work.
- Flow in all sewers and sewer connections must be maintained during construction.
- Contractor must submit fluming diagram for approval.
- Trench cannot be used as flume.
- Pipe to be inspected prior to installation. Rejected pipe to be marked and removed from site.
- Pipe must be stamped with proper identification.
- Sub-grade to be compacted and tested prior to pipe installation.
- Stone ballast is to be used where required, subgrade to be dry.
- Concrete vibrator required for consolidating concrete during placement.

- Three No. 5 rebar dowels required at all manhole insertions.
- Bond breaker and additional 3-inches of concrete required when sheeting is used as form.
- All abandoned sewers to be properly capped and filled as required.
- No bulkheads permitted without written authorization.
- Contractor to prevent construction debris, soil, fill, etc. from entering sewers.
- TV inspection on ESVP to be done every 500 LF prior to payment.
- TV inspection required (diameters < & = 54-inches) prior to final restoration.
- Walk through inspection required (diameters > 54-inches) prior to final restoration.
- All interior and exterior joints in pipe 48-inches and larger in diameter to be sealed with mortar.
- All lifting holes to be properly sealed.
- All connections to be properly trimmed.
- Top step 35-inch maximum from street grade, then steps every 12-inches.
- Benches to be poured to proper height and slope.
- All DIP used for storm and sanitary sewers to be lined with an approved ceramic epoxy.
- All pipe repairs required must be done prior to final restoration.

CONSTRUCTION ISSUES – POURED-IN-PLACE STRUCTURES

- Follow approved shop drawings.
- Rebar splicing requires an overlap of 40 rebar diameters.
- Minimum cure times for stripping forms must be followed unless concrete strength meets specified requirements.
- Water stop to be installed as required.
- Curing / Cold weather protection as per specifications.

CONSTRUCTION ISSUES – CATCH BASINS

- Avoid trees and driveways.
- Connection trenches fully excavated prior to pipe installation.
- All DIP chute connections are to be lined with an approved ceramic epoxy.
- Connections are to be cut flush with inner walls of manholes and catch basins.
- Minimum 3 ft sump required below chute connection.
- Stone bedding required.
- Precast slabs to be set in mortar.

CONSTRUCTION ISSUES – SPURS

- Spurs must be fully encased in concrete.
- Spurs are to be installed for empty lots, and every 25' on large lots.
- Approved clay caps with gasket seals required in all spurs installed for future use.

CONSTRUCTION ISSUES – HOUSE CONNECTIONS

- New connections to be installed 2 to 5 ft behind curb or new sidewalk.

- New connections to be a minimum of 8 ft deep at curb. Deeper connections may be required based on trap survey elevations.
- No new connections to be installed for empty lots without written request from owner.
- House connection slope to be ¼" per foot minimum.
- Reconnections to be made with in kind material to sound joints on existing pipe.
- Approved pipe adapter couplings to be used.

CONSTRUCTION ISSUES – RISERS (see Standard Sewer Riser Drawing for details)

- Risers required when existing house connection is 3 ft above pipe crown or higher.
- Riser required when sewer is more than 13 ft deep.
- Riser concrete encasement not to be poured at same time as sewer cradle.
- Reinforcing steel required as per Standard Drawing.
- Progressively deposit backfill on all sides.

CONSTRUCTION ISSUES – PILES (see Piles Supplement)

CONSTRUCTION ISSUES – BACKFILLING

- Acceptable specified fill material to be used.
- Select granular fill to be placed and compacted - from sub-grade to 2 ft above top of sewers and connections, around catch basins, narrow spaces, and within 18" of all other underground structures and facilities.
- Approved compaction method (including thickness & no. of lifts deposited and equipment) to be utilized.
- Approved soils testing laboratory personnel must provide compaction testing as required.

CONSTRUCTION ISSUES – TEMPORARY RESTORATION

- Temporary restoration must be installed on all sidewalks and roadways open to pedestrians and traffic at the end of each workday.
- Temporary restoration to be 4-inch thick plant mixed binder base must placed on a compacted subgrade, a 6-inch stone base subgrade must be used over a soil comprised of silts and clays to prevent heaving.
- Written approval to leave temporary restoration in place as a base for permanent restoration must be received prior to installing temporary pavement (See SCOP 05-002G for details).
- If temporary asphalt is to be considered for being left-in-place, all requirements for sub-grade preparation and permanent roadway binder base installation must be followed.
- Any temporary pavement found to be unsuitable must be removed prior to resurfacing.
- Temporary pavement markings to be installed and maintained.

OTHER ISSUES

- _____
  _____

- _____
- _____
- _____
- _____

APPLICABLE SEWER SCOP(s)

NO.	DATE	TITLE
98-003S	11/10/98	As-Built Records for Sewers Projects - R.E. Responsibility
00-002G	2/25/00	Fly Ash in DEP Concrete
00-005S	4/5/00	As-Built Records for Sewers Projects - R.E. Responsibility
00-006G	6/22/00	Catch Basin As-Built Inventory
00-008G	7/27/00	Construction Site Emergency / Accident Notification
00-010S	12/8/00	Catch Basin Connections on SE-CB Projects
01-005G	5/2/01	Temporary Processing, Stockpiling and Storage Sites
01-011G	9/17/01	Location of Major Underground Facilities
01-012G	8/3/01	Material Testing - QA Lab
02-011G	4/23/02	Type-1 Catch Basins
02-012G	4/24/02	NY State DEC Permits
02-013G	4/26/02	Sewer Entry in Manhattan - Special Precautions
04-009G	10/18/04	Shop Drawing Approval
04-010G	6/1/04	Sheeting and Bracing - Constructability Review
05-002G	6/29/05	Substitution of Permanent for Temporary Asphaltic Concrete
05-008G	11/16/05	Sewer Connection Assessments
05-010G	6/21/05	Catch Basin Type 3 Substitution Request by Utilities
05-011G	10/3/05	Material Release and Shipping Authorization - QACS
06-002G	2/14/06	Shop Drawing Log Sheet
06-006G	10/17/06	Sewer As-Built Records - Repairs
06-007G	10/18/06	Storm Water Pollution Protection Plan (SWPPP)
07-002G	3/30/07	Catch Basin As-Built Inventory
07-005G	10/4/07	Project Closeout Tracking Sheet

CRITICAL PHASE MEETING AGENDA
SEWERS (PIPE)
SIGN-IN SHEET

CONTRACT NO.: _____ **REGISTRATION NO.:** _____

PROJECT DESCRIPTION: _____

_____

MANAGING UNIT / BOROUGH: _____

CONTACTOR: _____ **SUPERVISION:** _____

MEETING DATE: _____ **LOCATION:** _____ **TIME:** ____

Attendees:

Name	Affiliation	Phone #	Fax #	E-mail Address

C: All Attendees

CRITICAL PHASE MEETING AGENDA - DISTRIBUTION WATER MAINS

CONTRACT NO.: _____ **REGISTRATION NO.:** _____

PROJECT DESCRIPTION: _____

_____

MANAGING UNIT / BOROUGH: _____

CONTACTOR: _____ **SUPERVISION:** _____

MEETING DATE: _____ **LOCATION:** _____ **TIME:** _____

MEETING OUTLINE

GENERAL ITEMS

- Introduction of Attendees.
- Current Construction Schedule Overview.
- Latest Standard Water Main Spec. dated 11/1/07
- Latest Standard Water Main Spec. for Materials are available on the DDC Intranet
- Latest Water Main Standards Details are available from DDC Design
- Review Contract Plans
- Review of Applicable Distribution Water Main SCOP(s)

SUBMITTALS AND APPROVALS (All submittals to RE / EIC except as noted - then copy RE / EIC).

- Design Mixes

  Asphalt Binder Base:

- Shop Drawings

  Sheeting & Bracing
  Traffic Control Plan
  Other: _____
  Other: _____
  Other: _____

- Subcontractors/Services

  Material Testing Lab
  NYC Licensed Plumber
  Technical Services

CRITICAL PHASE MEETING AGENDA - DISTRIBUTION WATER MAINS

- Vendors Submit for Approval to: DDC Director of Quality Assurance (3rd Fl., 30-30 Thomson).

	Submitted	Approved	Pending	Notes
Asphalt	☐	☐	☐	_____
Brass Fittings (Water Service)	☐	☐	☐	_____
Brick	☐	☐	☐	_____
Castings	☐	☐	☐	_____
Concrete	☐	☐	☐	_____
Copper Tubing	☐	☐	☐	_____
Clean Fill	☐	☐	☐	_____
Filter Fabric	☐	☐	☐	_____
Fittings	☐	☐	☐	_____
Precast Products	☐	☐	☐	_____
Pipe (DIP)	☐	☐	☐	_____
Steel (Reinforcing Bars)	☐	☐	☐	_____
Steel (Structural)	☐	☐	☐	_____
Select Granular Fill	☐	☐	☐	_____
Gravel or Broken Stone	☐	☐	☐	_____
Gate Valves	☐	☐	☐	_____
Retainer Glands (Wedge Type)	☐	☐	☐	_____
Screw Taps (Corporation Stop)	☐	☐	☐	_____
Wet Connection Saddles	☐	☐	☐	_____
Hydrant	☐	☐	☐	_____
Hydrant Fenders & Caps	☐	☐	☐	_____
Other: _____	☐	☐	☐	_____
Other: _____	☐	☐	☐	_____
Other: _____	☐	☐	☐	_____

CONSTRUCTION ISSUES – SAFETY

- OSHA requirements to be discussed.
- Designation of competent person (submit in writing).
- Hardhats and safety vests to be worn refer to JHA for additional Personal Protection Equipment (PPE) requirements.
- Lifting equipment must have valid inspection certificate from the Dept. of Buildings.
- The use of open hooks to lift materials will not be permitted. Hooks with safety latches, shackles and pins, or lifting apparatus with an approved safety release must be utilized.
- Tight fencing required around all open excavations and other potentially hazardous areas.
- Maintenance and Protection of Traffic (MPT) to be as per specifications / approved drawings.
- Materials to be safely and neatly stored. Barrels warning lights and fencing required.
- Rodent control.
- Traffic / Street Lighting to be maintained.
- Notify Fire Dept. Immediately if the Fire communication system is damaged.
- Discuss restrictions (if any) and precautions for work near schools, no water service shutdown of schools while in session.
- DDC Emergency Protocol (see SCOP 00-008G).

CRITICAL PHASE MEETING AGENDA - DISTRIBUTION WATER MAINS

CONSTRUCTION ISSUES – TRENCHING

- Utility Notification – Industrial Code Rule 753.
- Saw-cutting of pavements required.
- Maximum trench widths payable.
- Approved sheeting and bracing shop drawings must be followed.
- Sheeting required for all excavations 5 ft deep or more.
- Sheeting required for all water mains 20-inch and larger in diameter.
- No personnel will be permitted in areas not properly sheeted and braced.
- Backfill required behind sheeting.
- Adequate soil dewatering and sufficiently dry sub-grade required.
- Steel plates not permitted as sheeting unless shown on approved drawings.
- Competent person to monitor sheeting and bracing.
- Ladder access – OSHA compliance.
- Fire hydrant access to be maintained.
- Pedestrian bridges to be installed as required.
- Exposed water services must be insulated to prevent freezing when temperatures are 35-degrees Fahrenheit (35° F) or less (see SCOP 00-001G).
- Water services with less than 3½ ft of cover must be permanently insulated (see SCOP 00-001G).
- Water service repairs to be made from main to furthest repair point (one coupling maximum).

CONSTRUCTION ISSUES – SHUTDOWNS

- All water service shutdowns are to be planned as per SCOP(s) 04-014 and 05-004.
- Shutdowns may be restricted due to the presence of schools, hospitals, doctor's offices, etc.
- Requests for shutdowns to DEP must are made prior to 12 Noon for the next workday.
- Shutdown notices to be provided to residents in the afternoon prior to shutdown.
- Ambient temperature must be at least 28° F and rising at 9:00 AM to perform a shutdown.
- No shutdowns are to be made by the Contractor.
- Water service must be restored to every customer at the end of each workday.

CONSTRUCTION ISSUES – DISTRIBUTION WATER MAINS

- A letter from a NYC licensed plumber who will be performing work on the water services must be submitted for approval prior to any work. The letter must be on the plumber's letterhead and must designate personnel approved to perform the work.
- All pipes must be properly stacked and secured when brought to and stored on site.
- Forks are not to be inserted into pipes and fittings for lifting to avoid damaging the cement lining.
- All pipes and fittings must be hosed out with clean water and sprayed with a 1% chlorine solution on the day of installation. Pipe ends must be covered to protect the pipe from contamination once cleaned.
- Pipes stored along the trench must be placed on sandbags or wood blocks.

- Wood plugs must be used to cover the ends of the pipe in the trench and those being installed. Wood plugs must be dipped into a 1% chlorine solution prior to reuse or stored in the solution when not in use.
- The following materials can be recovered and reused if found in good condition: Mainline Valve Boxes (MLVB) (includes frame, cover and skirt), Hydrants Valve Boxes (HVB), and Cast Iron Drain Bases (CID), or as directed by the Engineer.
- When connecting into existing smaller mains, a minimum of 10 ft of pipe must be installed between the valve and the reducer. A minimum of 10 ft of pipe must also be installed after a valve before tying into the existing main.
- Sand bedding or sand bags will be placed beneath the pipe when installing it in the trench.
- Mainline valve boxes and hydrant valve boxes are to be supported by concrete blocks set from the sub-grade / bottom of the trench.
- All castings to be set to grade without shims.
- Torque limiting wrenches must be utilized for all mechanical connections.
- All gaskets are to be kept above 40 degrees Fahrenheit (40° F), must be pliable and free of cracks before use.
- Wiped lead joints are not permitted for connecting new copper to existing lead water services. Lead-Pak couplings (or an approved equal) must be used to connect copper to lead.
- The contractor must take great care to install new hydrants to proper grade. The use of hydrant spool pieces to adjust the hydrant to a proper grade will not be permitted.
- Wet connections are to be cut by DEP Personnel.
- Pier & plating or additional protection to be installed over shallow mains as per Standard Details.
- An open trench leakage test must be made before backfilling any joints when laying wet.
- Hydrants to be tested for proper operation and drainage prior to backfilling.
- The pipe installed for the day's work must be disinfected with a 300 PPM chlorine solution for a minimum contact time of fifteen (15) minutes and followed by a flushing interval of at least fifteen (15) minutes to remove excess chlorine. All the excess chlorine must be flushed from the main prior to restoring service to any consumers when laying wet in a relay.
- No open ends are allowed at the end of the day's work. A cap or plug must be installed on all pipe ends, and the use of a valve as a cap is not permitted. All caps & plugs must be properly restrained.
- If laying pipe dry, a pressure / leakage test will be required. After passing the pressure / leakage test, the main must be flushed and water samples must be collected and pass all testing requirements before the main is returned to service and services are transferred.
- Contractor is solely responsible for repairing and replacing knocked down hydrants until fenders are installed.
- DDC to take water samples as required.
- Material certifications must be submitted prior to payment.

CONSTRUCTION ISSUES – BACKFILLING

- Approved compaction method (including no. of lifts deposited and equipment) to be utilized.
- Select granular fill to be placed and compacted as specified (6-inches below, 12-inches on each side and 12-inches over the top of the pipe).

- Approved excavated suitable fill or ordered clean fill or processed fill to be used to backfill the remainder of the trench.
- A soils technician, from an approved testing laboratory, must be present whenever backfilling is being done on the site. Compaction tests must be done each day of backfilling on the lower and upper portion of the trenches, and soil samples will be collected when the backfill material varies significantly from what had been used on prior occasions to perform a proctor analysis.

CONSTRUCTION ISSUES – TEMPORARY RESTORATION

- Temporary restoration must be installed on all sidewalks and roadways open to pedestrians and traffic at the end of each workday.
- Temporary restoration to be 4-inch thick plant mixed binder base must placed on a compacted subgrade, a 6-inch stone base subgrade must be used over a soil comprised of silts and clays to prevent heaving.
- Written approval to leave temporary restoration in place as a base for permanent restoration must be received prior to installing temporary pavement (See SCOP 05-002G for details).
- If temporary asphalt is to be considered for being left-in-place, all requirements for sub-grade preparation and permanent roadway binder base installation must be followed.
- Any temporary pavement found to be unsuitable must be removed prior to resurfacing.
- Temporary pavement markings to be installed and maintained.

OTHER ISSUES

- _____
- _____
- _____
- _____
- _____
- _____

APPLICABLE WATER MAIN SCOP(s)

NO.	DATE	TITLE
00-001G	4/5/00	Cold Weather Protection of Water Services
00-008G	7/27/00	Construction Site Emergency / Accident Notification
01-001G	3/12/01	Extended Water Shutdown Notice
01-009W	8/9/01	Water Main In-Service Notification
02-002G	1/16/02	Water Service Repair Log
04-010G	6/1/04	Sheeting and Bracing - Constructability Review
04-012G	8/23/04	Daily Water Main Shutdown Log
04-014G	5/5/05	Water Shutdown Planning for Holidays and Special Events
05-002G	6/29/05	Substitution of Permanent for Temporary Asphaltic Concrete
05-004G	10/4/05	Water Shut Down Planning
05-007W	6/29/05	Water Main Tap Cards (New)
05-011G	10/3/05	Material Release and Shipping Authorization - QACS
06-003W	6/27/06	Use of temporary Construction Valves on Distribution Water Mains
06-005W	6/26/06	Water Main Field Card
07-005G	10/4/07	Project Closeout Tracking Sheet
08-001W	2/8/08	Transfer of Water Services to New Mains
08-012W	12/16/08	Notification Procedure Following Water Main Shutdowns

CRITICAL PHASE MEETING AGENDA
DISTRIBUTION WATER MAINS
SIGN-IN SHEET

CONTRACT NO.: _____ **REGISTRATION NO.:** _____

PROJECT DESCRIPTION: _____

_____

MANAGING UNIT / BOROUGH: _____

CONTACTOR: _____ **SUPERVISION:** _____

MEETING DATE: _____ **LOCATION:** _____ **TIME:** ____

Attendees:

Name	Affiliation	Phone #	Fax #	E-mail Address

C: All Attendees

CRITICAL PHASE MEETING AGENDA - STEEL TRUNK WATER MAINS

CONTRACT NO.: _____ **REGISTRATION NO.:** _____

PROJECT DESCRIPTION: _____

_____

MANAGING UNIT / BOROUGH: _____

CONTACTOR: _____ **SUPERVISION:** _____

MEETING DATE: _____ **LOCATION:** _____ **TIME:** _____

MEETING OUTLINE

GENERAL ITEMS

- Introduction of Attendees.
- Current Construction Schedule Overview.
- Latest Standard Water Main Spec. dated 11/1/07.
- Latest Specification for Furnishing, Delivering and Laying Steel Pipe & Appurtenances.
- Latest Standard Water Main Spec. for Materials are available on the DDC Intranet.
- Latest Water Main Standards Details are available from DDC Design.
- Review Contract Plans.
- Review of Applicable Trunk Water Main SCOP(s).

SUBMITTALS & APPROVALS (All Submittals to RE / EIC Except as Noted - Then Copy RE / EIC).

- Design Mixes

  Asphalt Binder Base
  Concrete - structures (cast-in-place, 3500 psi)
  - structure components (pre-cast, 4000 psi)

- Shop Drawings

  Steel Pipe Geometry
  Steel Pipe Fabrication Standards
  Steel Pipe Lay Schedule
  Steel Pipe Piece (Mark Nos.) Drawings
  Flange Bolt Schedule
  Flange Bolt Insulation Kits
  Expansion Joint
  Pipe Coupling (insulated, straight, transition or reducing)
  Victaulic Coupling (grooved, shouldered)
  Gate Valves (includes FL x FL & FL x MJ)
  Butterfly Valves (includes valve actuator, torque limiter)
  Regulator Valves
  Venturi Meters
  Wall Sleeves & Pipe to Wall Penetration Seals (Link-Seal)
  Steel Sump Frame and Aluminum Grates
  Precast Products (small trunk water main chambers - outlets, blowoffs)

Sheeting & Bracing (Designed to accommodate the installation of 40 foot pipe lengths)
HS-20 Bridging / Decking
Traffic Control Plan
Other: _____
Other: _____
Other: _____

- Subcontractors/Services

Material Testing Lab
NYC Licensed Plumber
Pipe Welding
Waterproofing (Trunk Water Main Chambers)
Technical Services

- Vendors Submit for Approval to: DDC Director of Quality Assurance (3rd Fl., 30-30 Thomson).

	Submitted	Approved	Pending	Notes
Aluminum Grates (Sump)	☐	☐	☐	_____
Asphalt	☐	☐	☐	_____
Brass Fittings (Water Service)	☐	☐	☐	_____
Brick	☐	☐	☐	_____
Butterfly Valves (Complete)	☐	☐	☐	_____
Castings	☐	☐	☐	_____
Concrete	☐	☐	☐	_____
Copper Tubing	☐	☐	☐	_____
Clean Fill	☐	☐	☐	_____
Pipe Couplings	☐	☐	☐	_____
Expansion Joint	☐	☐	☐	_____
Filter Fabric	☐	☐	☐	_____
Fittings (Steel Pipe Fabrication)	☐	☐	☐	_____
Flanges (Steel Pipe Fabrication)	☐	☐	☐	_____
Flange Bolts & Insulators	☐	☐	☐	_____
Gate Valves (FLxMJ, FLxFL)	☐	☐	☐	_____
Gravel or Broken Stone	☐	☐	☐	_____
Hydrant	☐	☐	☐	_____
Hydrant Fenders & Caps	☐	☐	☐	_____
Link-Seals (Pipe to Wall Seals)	☐	☐	☐	_____
Precast Products	☐	☐	☐	_____
Pipe (Steel)	☐	☐	☐	_____
Regulator Valves (Complete)	☐	☐	☐	_____
Steel (Reinforcing Bars)	☐	☐	☐	_____

Steel (Structural)	☐	☐	☐	_____
Select Granular Fill	☐	☐	☐	_____
Screw Taps (Corporation Stop)	☐	☐	☐	_____
Wall Sleeves	☐	☐	☐	_____
Waterstop	☐	☐	☐	_____

	Submitted	Approved	Pending	Notes
Wedge Type Retainer Glands	☐	☐	☐	_____
Wet Connection Saddles	☐	☐	☐	_____
Venturi Meters	☐	☐	☐	_____
Victaulic Couplings	☐	☐	☐	_____
Other: _____	☐	☐	☐	_____
Other: _____	☐	☐	☐	_____
Other: _____	☐	☐	☐	_____

CONSTRUCTION ISSUES – SAFETY

- OSHA requirements to be discussed.
- OSHA confined space issues (air monitoring while cutting existing pipe from inside or welding new pipe from inside, spotters, safety & rescue equipment, forced ventilation, etc.).
- Sampling and testing of existing steel pipe coating to determine scope of remedial work required if samples test positive for asbestos and/or PCB(s). See SCOP 07-004W - Remediation of Steel Pipes with Asbestos / PCB for details.
- Designation of competent person (submit in writing).
- Hardhats and safety vests to be worn refer to JHA for additional Personal Protection Equipment (PPE) requirements.
- Lifting equipment must have valid inspection certificate from the Dept. of Buildings.
- The use of open hooks to lift materials will not be permitted. Hooks with safety latches, shackles and pins, or lifting apparatus with an approved safety release must be utilized.
- Tight fencing required around all open excavations and other potentially hazardous areas.
- Air Monitors – Hazardous Atmospheres.
- Impalement protection.
- Maintenance and Protection of Traffic (MPT) to be as per specifications / approved drawings.
- Materials to be safely and neatly stored. Barrels, warning lights and fencing required.
- Rodent control.
- Traffic / Street Lighting to be maintained.
- Notify Fire Dept. Immediately if the Fire communication system is damaged.
- Discuss restrictions (if any) and precautions for work near schools, no shutdown of schools while in session.
- DDC Emergency Protocol (see SCOP 00-008G).

CONSTRUCTION ISSUES – TRENCHING FOR STEEL TRUNK WATER MAINS

- Utility Notification – Industrial Code Rule 753.

- Saw-cutting of pavements required.
- Maximum trench widths payable.
- The sheeting system should be designed to provide adequate room to install a 40 foot length of pipe without damaging the exterior tape or coating.
- Approved sheeting and bracing shop drawings must be followed.
- Sheeting required for all excavations 5 ft deep or more.
- No personnel will be permitted in areas not properly sheeted and braced.
- Backfill required behind sheeting.
- Adequate soil dewatering and sufficiently dry sub-grade required.
- Steel plates not permitted as sheeting unless shown on approved drawings.
- Competent person to monitor sheeting and bracing.
- Ladder access – OSHA compliance.
- Fire hydrant access to be maintained.
- Pedestrian bridges to be installed as required.
- HS-20 Bridging / Decking must be installed in intersections.
- Exposed water services must be insulated to prevent freezing when temperatures are 35-degrees Fahrenheit (35° F) or less (see SCOP 00-001G).
- Water services with less than 3½ ft of cover must be permanently insulated (see SCOP 00-001G).
- Water service repairs to be made from main to furthest repair point (one coupling maximum).
- Temporary looped water services must be replaced with new type K copper tubing from the main to furthest undisturbed section (one coupling maximum).

CONSTRUCTION ISSUES – TRUNK WATER MAIN SHUTDOWNS

- Shutdowns may be restricted due to peak seasonal demands (see contract for details).
- Shutdowns must be requested in accordance with SCOP 04-015G - Trunk Water Main Shutdown Requests.
- No shutdowns are to be made by the Contractor.

CONSTRUCTION ISSUES – STEEL TRUNK WATER MAINS

- The Contractor must prepare and submit pipe geometry drawings in accordance with the specifications for approval. The drawings must be stamped by a licensed surveyor or engineer. The drawings must show all subsurface information that affects the pipe alignment.
- Certifications and QA release forms must be provided for all materials furnished (see SCOP 05-011G).
- A DDC Construction Division Representative must be present for the testing phase of all completed work.
- All steel pipes must be properly stacked on padded cradles and secured with nylon straps when brought to the site. Chains can only be used when padding is placed between the chain and pipe. Timber cross bracing (stulling) should be installed in the ends of the pipe to prevent it from deforming during transport. End caps should be installed during transport to keep the pipe interior clean.

- Nylon straps or pipe slings should be used when lifting the steel pipe. Chains should not be used for lifting. The Contractor should be aware that the use of nylon cinch straps on a taping system can deform it when the weather is hot. This tape deformation is usually cosmetic damage. It is good practice to leave the wood bracing in place for larger diameter pipe until the pipe is placed in the trench, welded together and backfilled to prevent pipe deformation.
- Pipes stored on site must be placed on sand bags or on the padded wood cradles they were delivered on and fenced in. The ends must be secured to prevent entry and damage to the liner.
- Sand bags will be placed beneath the pipe when installing it in the trench. The use of wood blocking will not be permitted.
- Temporary wood blocking to support valves & appurtenances in chambers is permitted and must be removed when permanent masonry supports are in place.
- All welding on the pipe shall be done by welders qualified by DDC Quality Assurance. Welders must have their DDC identification when reporting to work. See SCOP 05-009G – "QACS Qualification of Field Personnel – ID Card Verification".
- All air testing of the welded pipe lap joints (inside & out) and field welded outlets shall be witnessed by a DDC Construction Division Representative. All air testing shall be done at 50 psi.
- All joint taping and repairs shall be done by trained personnel. The contractor shall arrange training to be performed by a factory service representative for the installation, repair and inspection of all field taping work. The work shall be performed in accordance with the tape manufacturer's recommendations and AWWA C214 requirements.
- After the pipe has been welded, tested, bare steel primed and taped, the tape coating will be tested for defects electrically with an approved holiday tester (a.k.a. jeeper) set at 10,000 Volts. It shall be witnessed by a DDC Construction Division Representative. Any defects found will be repaired properly.
- After the tape coating has been tested and repaired as required, the pipe should be covered with sand within 24 hours to protect the coating from damage.
- FOR CEMENT MORTAR LINING: All interior cement joints and repairs shall be done by trained personnel. The contractor shall arrange training to be performed by a factory service representative for the mixing of cement mortar, placing mixed mortar in the joints, finishing the joints and the inspection of the cement mortar lining and joints. All materials used in the preparation of the cement mortar mix must be NSF approved. The work shall be performed in accordance with the manufacturer's recommendations and AWWA C205 and C602 requirements.
- All gaskets are to be kept above 40 degrees Fahrenheit (40° F), must be pliable and free of cracks before use.
- Dow Corning G-n Metal Assembly Paste (bolt thread lubricant) must be used on all flange bolt threads prior to tightening.
- Torque limiting wrenches must be used when tightening flange bolts.
- Insulated flanges must be checked for continuity prior to coating the bolts and flanges with an approved epoxy-based paint.
- At the end of the day's work the open ends, access manholes and outlets of the pipe must be properly secured and confirmed by a DDC Construction Division Representative.

- A joint inspection of the trunk water main work will be required after permanent paving is complete.

CONSTRUCTION ISSUES – APPURTENANT WORK FOR STEEL TRUNK WATER MAINS

- The contractor must take great care to install new aircock hydrants to proper grade. The use of hydrant spool pieces to adjust the hydrant to a proper grade will not be permitted.
- Aircock hydrants to be tested for proper operation and drainage prior to backfilling.
- Contractor is solely responsible for repairing and replacing knocked down aircock hydrants until fenders are installed.

CONSTRUCTION ISSUES – BACKFILLING FOR STEEL TRUNK WATER MAINS

- The contractor's backfilling and sheeting removal procedures must be designed to prevent damage to the pipe's exterior coating.
- Regardless of the condition of the excavated material, select granular fill / clean sand will be used as fill around the pipe with the following limits: 6 inches below the pipe; 1 foot above the pipe; and 2 feet on each side of the pipe. Compaction of the sand around the pipe will be done by water jetting.
- Approved excavated suitable fill or ordered clean fill or processed fill to be used to backfill the remainder of the trench.
- Approved compaction method (including no. of lifts deposited and equipment) to be utilized from one foot above the pipe to grade.
- A soils technician, from an approved testing laboratory, must be present whenever backfilling is being done on the site. Compaction tests must be done each day of backfilling on the lower and upper portion of the trenches, and soil samples will be collected when the backfill material varies significantly from what had been used on prior occasions to perform a proctor analysis.

CONSTRUCTION ISSUES – VALVE CHAMBERS, ACCESS MANHOLES & BLOWOFFS

- Reinforced concrete valve chambers, access manhole and blowoff structures to be built in accordance with applicable standard drawings.
- I-beam frame for access manhole must be imbedded in the concrete pour around the pipe. The pipe must to be protected from concrete pour with asphaltum / expansion joint material. Tapering riser supporting the casting can be poured separately.
- The specified waterproofing membrane consists of a hot applied asphalt meeting ASTM D449 Type 1 or 2 requirements be reinforced and built up with four layers of glass fabric meeting ASTM 1668 requirements.
- Waterstops to be installed as per standard drawings with proper overlap or joined with an iron.

CONSTRUCTION ISSUES – CLEANING, DISINFECTION & SERVICE RESTORATION

- The steel pipe and appurtenances must be washed, sanitized, flushed clean and tested before being returned to service. A disinfection plan must be developed and reviewed prior to performing such work. DDC to take water samples as require. See SCOP 06-001W - Protocol for Disinfecting and Activating Trunk Water Mains and Appurtenances for details.
- Aircock hydrants, blowoff valves and pots to be tested for proper operation and drainage during the disinfection and flushing stages. Immediate repairs may be required due to the limited

number of aircock hydrants and blowoffs installed on sections of steel trunk water mains and their impact of the disinfection, flushing and filling operations.

CONSTRUCTION ISSUES – TEMPORARY RESTORATION

- Temporary restoration must be installed on all sidewalks and roadways open to pedestrians and traffic at the end of each workday.
- Temporary restoration to be 4-inch thick plant mixed binder base must placed on a compacted subgrade, a 6-inch stone base subgrade must be used over a soil comprised of silts and clays to prevent heaving.
- Written approval to leave temporary restoration in place as a base for permanent restoration must be received prior to installing temporary pavement (See SCOP 05-002G for details).
- If temporary asphalt is to be considered for being left-in-place, all requirements for sub-grade preparation and permanent roadway binder base installation must be followed.
- Any temporary pavement found to be unsuitable must be removed prior to resurfacing.
- Temporary pavement markings to be installed and maintained.

OTHER ISSUES

- _____
- _____
- _____
- _____
- _____
- _____

APPLICABLE TRUNK WATER MAIN SCOP(s)

NO.	DATE	TITLE
00-001G	4/5/00	Cold Weather Protection of Water Services
00-008G	7/27/00	Construction Site Emergency / Accident Notification
00-009G	10/31/00	Steel Reinforcement Impalement Prevention
01-007G	6/15/01	Shop Drawing Approval
02-002G	1/16/02	Water Service Repair Log
04-009G	10/18/04	Shop Drawing Approval
04-010G	6/1/04	Sheeting and Bracing - Constructability Review
04-015G	12/29/04	Trunk Water Main Shutdown Requests
05-009G	6/15/06	QACS Qualification of Field Personnel – ID Card Verification
05-011G	10/3/05	Material Release and Shipping Authorization - QACS
06-001W	2/13/06	Protocol for Disinfecting & Activating Trunk Water Mains & Appurt.
06-002G	2/14/06	Shop Drawing Log Sheet
07-004W	7/10/07	Remediation of Steel Pipes with Asbestos / PCB

CRITICAL PHASE MEETING AGENDA
DISTRIBUTION WATER MAINS
SIGN-IN SHEET

CONTRACT NO.: _____ **REGISTRATION NO.:** _____

PROJECT DESCRIPTION: _____

_____

MANAGING UNIT / BOROUGH: _____

CONTACTOR: _____ **SUPERVISION:** _____

MEETING DATE: _____ **LOCATION:** _____ **TIME:** ____

Attendees:

Name	Affiliation	Phone #	Fax #	E-mail Address

C: All Attendees

CRITICAL PHASE MEETING AGENDA - HIGHWAYS

CONTRACT NO.: _____ **REGISTRATION NO.:** _____

PROJECT DESCRIPTION: _____

_____

MANAGING UNIT / BOROUGH: _____

CONTACTOR: _____ **SUPERVISION:** _____

MEETING DATE: _____ **LOCATION:** _____ **TIME:** _____

MEETING OUTLINE

GENERAL ITEMS

- Introduction of Attendees.
- Current Construction Schedule Overview.
- Review of Latest Highway Specifications.
- Review of Standard Drawings.
- Review of Contract Plans.
- Review of Applicable SCOP(s).

SUBMITTALS AND APPROVALS (All submittals to RE / EIC except as noted - then copy RE / EIC).

- Design Mixes

Asphalt Binder Base
Asphalt Top
Concrete - Structures - Roadway Base - Sidewalks/Curbs
- Pigmented - High-early - Flowable Fill
- Special Mixes

- Shop Drawings

Curb/Gutter Survey & Profile.
Sealed Cut Sheets.
Project Survey / Layout.
Traffic Control Plan.
Granite Curbs.
Street Lighting.
Traffic Signals.
Fire Communication.
Other: _____
Other: _____
Other: _____

- Subcontractor/Services

  Material Testing Lab.
  Engineering Surveys and/or Surveyors.
  Pavement Markings.
  Signs.
  Technical Services.
  Other: _____
  Other: _____
  Other: _____

- Vendors Submit for Approval to: DDC Director of Quality Assurance (3rd Fl., 30-30 Thomson).

	Submitted	Approved	Pending	Notes
Asphalt	☐	☐	☐	_____
Brick	☐	☐	☐	_____
Castings	☐	☐	☐	_____
Concrete	☐	☐	☐	_____
Pigmented Concrete	☐	☐	☐	_____
Clean Fill	☐	☐	☐	_____
Backfill Material	☐	☐	☐	_____
Foundation Material (SW)	☐	☐	☐	_____
Steel Curbs	☐	☐	☐	_____
Granite Curbs	☐	☐	☐	_____
Concrete Barrier	☐	☐	☐	_____
Filter Fabrics	☐	☐	☐	_____
Pavement Markings	☐	☐	☐	_____
Timber Barricades	☐	☐	☐	_____
Tack Coats	☐	☐	☐	_____
Plastic Barrels	☐	☐	☐	_____
Steel (Reinforcing)	☐	☐	☐	_____
Steel (Structural)	☐	☐	☐	_____
Dense Graded Stone / RCA	☐	☐	☐	_____
Open Graded Stone / RCA	☐	☐	☐	_____
Stone / RCA	☐	☐	☐	_____
Topsoil	☐	☐	☐	_____
Curing Compounds	☐	☐	☐	_____
Caulking Material	☐	☐	☐	_____
Detectable Warning Surface	☐	☐	☐	_____
Expansion Joint Filler	☐	☐	☐	_____
Reflective Cracking Membrane	☐	☐	☐	_____
Street Lighting	☐	☐	☐	_____
Traffic Signals	☐	☐	☐	_____
Fire Communication	☐	☐	☐	_____
Other: _____	☐	☐	☐	_____
Other: _____	☐	☐	☐	_____

CONSTRUCTION ISSUES – SAFETY

- OSHA requirements are to be adhered to.
- Hardhats and safety vests to be worn refer to JHA for additional Personal Protection Equipment (PPE) requirements.
- Lifting equipment must have valid inspection certificate from Dept. of Buildings.
- Materials to be safely and neatly stored. Barrels and fencing required.
- Maintenance and Protection of Traffic (MPT) to be as per specifications / approved drawings.
- Traffic / Street Lighting to be maintained.
- Notify Fire Dept. immediately if the Fire communication system is damaged.
- Discuss restrictions (if any) and precautions for work near schools.
- Fire / Police notification of temporarily blocked roads.
- DDC Emergency Protocol (see SCOP 00-008G).

CONSTRUCTION ISSUES – PAVEMENT EXCAVATION (SIDEWALK & ROADWAY)

- Ensure that street closing permit is in place.
- Notify Police, Fire Dept, EMS and Transportation (buses) of street closures.
- Setup proper MPT as per contract plans or approved drawings.
- Coordinate the replacement and/or grade adjustments to existing castings belonging to private utilities.
- Trees to be protected, hand excavation around trees, no tree roots to be cut without direction from Parks Dept. or arborist (tree consultant).
- Saw cut around all vaults (and cellar doors), unless otherwise indicated.
- Elevations of existing pavement profile to be provided prior to excavation for the development of cut & fill cross-sections for payment of unclassified excavation.
- Review hoe ram and truck mounted pavement breaker restrictions.
- Random areas selected by the RE to be tested for satisfactory compaction results.

CONSTRUCTION ISSUES – BACKFILLING

- Acceptable specified fill material to be used.
- Approved compaction method (including thickness & no. of lifts deposited and equipment) to be utilized.
- Approved soils testing laboratory personnel must provide compaction testing as required.

CONSTRUCTION ISSUES – TEMPORARY RESTORATION

- Temporary restoration must be installed on all sidewalks and roadways open to pedestrians and vehicular traffic at the end of each workday.
- Temporary restoration to be plant mixed binder base.
- Temporary Lane Markings to be applied before opening roadway to traffic.

CONSTRUCTION ISSUES – CONCRETE

- Concrete trucks require current inspection stickers.
- Trucks exceeding time and/or revolution limits will be rejected.
- Proper weather protection required.

- Proper slump, air content and strength required.
- Vibrator to be used near fixed objects and reinforcement.

CONSTRUCTION ISSUES – CONCRETE CURBS

- Modified steel curbs to be installed in front of trees as required (see tree mitigation details).
- Sub-base to be compacted prior to setting forms.
- Full depth lubricated forms required.
- Expansion joints required at proper spacing (10 ft. spacing for concrete curbs).
- Wood spacers to be removed.
- Proper finish required, rub face of concrete curbs, bevel edges, etc.
- Approved curing compound to be applied properly.

CONSTRUCTION ISSUES – STEEL CURBS

- Modified steel curbs to be installed in front of trees as required (see tree mitigation details).
- Sub-base to be compacted prior to setting forms.
- Full depth lubricated forms required.
- Expansion joints required at proper spacing (20 ft. spacing for steel curbs).
- Wood spacers to be removed.
- Proper concrete finish required.
- Approved curing compound to be applied properly.
- Grind and weld joints corner curbs and short pieces.
- Two coats of paint on exposed steel required.

CONSTRUCTION ISSUES – GRANITE CURBS

- Approvals for finish / color / texture.
- Sub-base to be compacted prior to setting curb and pouring concrete foundation.

CONSTRUCTION ISSUES – SIDEWALKS

- All sawcuts to be full depth.
- Sub-base to be compacted prior to placing sidewalk foundation.
- Approved foundation material required.
- Foundation to be a minimum of 6-inches thick after compaction.
- Expansion Joints required every 20 ft (maximum) and at all obstructions, lamp posts, etc.
- Align sidewalk expansion joints with curb expansion joints.
- Backer rod required on expansion joints.
- Driveways to be isolated.
- Wire Mesh reinforcement to be used as required.
- Foundation material to be wet down prior to placement of concrete.
- Adequate ambient and surface temperatures required prior to placing concrete.
- Sidewalk to be 4-inches or 7-inch thick as required.
- Surface of sidewalk to be broom finished.

- Edges and joints to be timely and properly tooled.
- Expansion joints to be properly sealed prior to winter weather.
- Type 1 clear curing compound with fugitive dye to be applied at the proper rate.

CONSTRUCTION ISSUES – PEDESTRIAN RAMPS

- Latest details to be reviewed / followed (i.e., H-1011).
- Zero reveal required at drop.
- Two-inch reveal required between two adjacent corner ramps.
- Eight (8) percent maximum ramp slope.
- Two pedestrian ramps are preferred over a single apex ramp (see applicable SCOP 07-006G).
- Detectable warning surface to have 70% color contrast with surrounding sidewalk (i.e., light gray vs. dark gray).

CONSTRUCTION ISSUES – CONCRETE BASE

- Sub-base to be properly compacted and tested, soft spots to be excavated, replaced with dry material and compacted.
- Sub-base to be properly crowned.
- Grade pins to be provided.
- Sub-Base to be wet down prior to concrete placement.
- Keys and haunches are to be constructed when required as per detail H-1034.
- Provide additional concrete thickness at the haunches and keys.
- Additional 2-inches (thick) of concrete required 18-inches around castings.
- Transverse joints to be cut within 24 hours as per detail H-1040.
- Curing compound to be applied timely and at proper rate.

CONCRETE PAVEMENT

- Submit shop drawings as specified by contract.
- Submit joint details and layouts as per field conditions.
- Sub-base to be properly compacted and tested, soft spots to be excavated, replaced with dry material and compacted.
- Sub-base to be properly crowned.
- Proper chairs to be used for reinforcement and dowel support.
- Proper surface and lay down temperatures to be enforced.
- Proper consolidation of concrete pavement.
- Finishes as per pavement details.
- Proper non-marring curing compound to be applied timely and at proper rate.
- Full concrete panels must be replaced when damaged.

CONSTRUCTION ISSUES – ASPHALT PAVING

- Sub-base to be properly compacted and tested.
- Sub-base to be properly crowned and free of standing water.

- Reflective cracking membrane to be installed on joints and cracks.
- Approved tack coat to be applied at specified rate required.
- Tack coat required on edges of curb, castings and hardware.
- Proper tack coat sample to be taken.
- Cold weather restrictions to be followed.
- Proper surface and lay down temperatures to be enforced.
- Surface mix (top) cannot be substituted for base course.
- Minimum of two 10-ton rollers (backup roller recommended).
- Marshal density (maximum theoretical) must be obtained promptly from the plant technician during asphalt paving operation.
- On-site lab technician with nuclear density gauge required.
- Proper rolling pattern to be used as directed and based on density readings.
- Asphalt bag samples to be taken.

CONSTRUCTION ISSUES – RESURFACING

- Approved curb and gutter profiles required.
- "A" and "B" keys to be installed as required.
- All castings to be centered and set to grade with brick and mortar (all paving rings to be removed).

CONSTRUCTION ISSUES – TESTING

- Contractor to provide R.E. with the following testing equipment: 2-air entrainment meters, 2-slump test sets, 1-minimum/maximum thermometer, 3-A/C thermometers, 3- surface thermometers.
- Cores required for concrete base, sidewalks and asphalt pavement.
- Core rates to be adhered to.
- Concrete cylinders required for curbs.

OTHER ISSUES

- _____
- _____
- _____
- _____
- _____
- _____

APPLICABLE HIGHWAY SCOP(s)

NO.	DATE	TITLE
98-010G	12/8/98	Cold Weather Concreting
00-007G	7/27/00	Borough Survey Monuments - Protection and Installation
00-008G	7/27/00	Construction Site Emergency / Accident Notification
01-005G	5/2/01	Temporary Processing, Stockpiling and Storage Sites
01-012G	8/3/01	Material Testing - QA Lab
02-014G	5/6/02	Construction Site Safety Emergency Protocol
02-015G	9/16/02	Critical Traffic Signs Maintenance
03-005G	10/31/03	Pedestrian Ramp As-Built Inventory
04-003G	4/26/04	Pay Telephone Removal
04-005G	4/28/04	Parking Meter Removal
04-007G	5/4/04	Garbage Collection on Project Sites
04-009G	10/18/04	Shop Drawing Approval
05-002G	6/29/05	Substitution of Permanent for Temporary Asphaltic Concrete
06-002G	2/14/06	Shop Drawing Log Sheet
06-007G	10/18/06	Storm Water Protection Plan (SWPPP)
06-008G	10/27/06	Sidewalks - ADA Compliance
06-009G	12/19/06	Street Lighting & Traffic Signals Coordinator
07-006G	10/4/07	Pedestrian Ramp Installation & Reporting Guidelines - Rev.

CRITICAL PHASE MEETING AGENDA
HIGHWAYS
SIGN-IN SHEET

CONTRACT NO.: _____ **REGISTRATION NO.:** _____

PROJECT DESCRIPTION: _____

_____

MANAGING UNIT / BOROUGH: _____

CONTACTOR: _____ **SUPERVISION:** _____

MEETING DATE: _____ **LOCATION:** _____ **TIME:** ____

Attendees:

Name	Affiliation	Phone #	Fax #	E-mail Address

C: All Attendees

CAST-IN-PLACE CULVERTS, OUTFALLS & CHAMBERS

SUBMITTALS & APPROVALS (All Submittals to RE / EIC Except as Noted - Then Copy RE / EIC).

- Shop Drawings
  Rebar Schedules (RE to Review/Approve)
  Water Stop Detail

- Vendors Submit for Approval to: DDC Director of Quality Assurance (3rd Fl., 30-30 Thomson).

	Submitted	Approved	Pending	Notes
Water Stop	☐	☐	☐	_____

CONSTRUCTION ISSUES – GENERAL

- Approved protection between the sheeting and concrete shall be provided when sheeting is used as forms. An additional 3-inches of concrete shall be added to all surfaces in contact with sheeting.
- Inverts to be poured monolithically and troweled smooth.
- Concrete for sewer sidewalls to be deposited continuously to the height, to the thickness and for such longitudinal distances as approved.
- Roof slab concrete to be deposited continuously for the full depths and the entire widths of the roofs and for such longitudinal distances as approved.
- Construction Joints to be provided with proper keys and dowels for connecting adjacent structures.
- Water stops to be installed between pours.
- Concrete formwork shall not be removed without the permission of the Engineer.
- Forms shall be left in-place the minimum length of time as specified below, from the time of placing concrete:
  (1) Columns_____48 Hours
  (2) Side forms for beams & girders_____48 Hours
  (3) Bottom forms of slabs (up to 10 ft. of clear span)_____72 Hours
  (4) Bottom forms of slabs (over 10 ft. of clear span)_____96 Hours
  (5) Bottom forms of beams & girders_____120 Hours
  (6) Walls_____48 Hours
- Subsequent to the removal of forms, all slabs, girders and beams, subject to their own weight only, shall continue to be adequately supported by bracing and/or shoring for a minimum period of four (4) days from the date of placing concrete. Members subject to additional loads during construction shall be adequately shored to the satisfaction of the Engineer.

PRE-CAST CULVERTS

SUBMITTALS & APPROVALS (All Submittals to RE / EIC Except as Noted - Then Copy RE / EIC).

- Shop Drawings, Calculations
  - Structural design of pre-cast box sewers & joint details (PE Stamp)
  - Pre-cast Box Culvert Installation Drawings (Layout)
  - Water Stop Detail

- Vendors Submit for Approval to: DDC Director of Quality Assurance (3rd Fl., 30-30 Thomson).

	Submitted	Approved	Pending	Notes
Water Stop	☐	☐	☐	_____
Pre-cast reinforced box culvert	☐	☐	☐	_____

CONSTRUCTION ISSUES – GENERAL

- Material Certifications to be received prior to installation.
- All curves and bends to be poured in place.
- Keyway and water stops at connections to poured-in-place structures.
- Structures to be placed on 2 rows of 2x8-inch pressure treated timber planks embedded in well compacted 6-inch thick stone bedding.
- Joints to be properly greased to allow gasket to seal properly without rolling.
- Joints to be closed to within ½-inch and grouted.

TIMBER PILES

SUBMITTALS & APPROVALS (All Submittals to RE / EIC Except as Noted - Then Copy RE / EIC).

- Shop Drawings, Reports & Calculations
  - Pre-construction reports (submitted to project's Design Director)
  - Pile blow count design calculations (signed by P.E.)
  - Detailed pile plan (proposed location of piles to be submitted in writing)

- Subcontractor/Services
  - Pile Driving Subcontractor
  - Technical Service - Vibration and Settlement Monitoring

- Vendors Submit for Approval to: DDC Director of Quality Assurance (3rd Fl., 30-30 Thomson).

	Submitted	Approved	Pending	Notes
Treated Timber Piles	☐	☐	☐	_____

CONSTRUCTION ISSUES – ADDITIONAL SAFETY REQUIREMENTS

- Proper personal protection equipment (earplugs, goggles, etc. in addition to hardhats & safety vests).
- Certificate of operation must be current for approved pile rig and hammer.
- Settlement and vibration monitoring to be in place prior to pile installation.

CONSTRUCTION ISSUES – TIMBER PILES (Material Requirements)

- The piles shall be treated with Chromated Copper Arsenate Type C (CCA) conforming to AWPA standard P5 to a minimum oxide retention level of 1.0 pcf for ground contact use.
- Timber piles to be inspected, stamped and shipped with material certifications.
- Timber piles are to be visually inspected for compliance with specifications. Timber to be of proper type, size, and grade. The pile shall be straight and sound - free of decay, unsound knots and knot clusters (see specification for details).

CONSTRUCTION ISSUES – DRIVING TIMBER PILES

- Proper load tests and test pile installations as required.
- Minimum pile lengths vs. Maximum stone bedding depth to be discussed.
- Restrictions on driving piles near freshly placed concrete.
- Pile limits on plans are approximate. Actual limits to be determined in the field and based on conditions found. Pile installations to start and end at manholes. Manholes can be added or locations adjusted to accommodate field conditions.
- Sewers immediately downstream and upstream of pile section are not to be constructed until actual pile installation limits are determined.
- Piles to be marked at one foot intervals before installation.
- Exposed wood of piles cut or drilled to be painted with a copper naphthenate preservative (min. 2% copper metal solution).
- Pile cap reinforcing steel to be installed as per details.

STEEL PILES

CONSTRUCTION ISSUES – GENERAL

- Refer to applicable contract and standard specifications.

CONTINUOUS FLIGHT AUGER (CFA) PILES

CONSTRUCTION ISSUES – GENERAL

- Refer to applicable contract and standard specifications.

MINI PILES

CONSTRUCTION ISSUES – GENERAL

- Refer to applicable contract and standard specifications.

STREET LIGHTING & TRAFFIC SIGNALS

SUBMITTALS & APPROVALS (All Submittals to RE / EIC Except as Noted - Then Copy RE / EIC).

- Shop Drawings
  - Traffic Signals
  - Street Lighting
- Subcontractor
  - Traffic Signals
  - Street Lighting

- Vendors Submit for Approval to: DDC Director of Quality Assurance (3rd Fl., 30-30 Thomson).

	Submitted	Approved	Pending	Notes
Traffic Signals	☐	☐	☐	_____
Street Lighting	☐	☐	☐	_____

CONSTRUCTION ISSUES – GENERAL

- All key stake holders must be invited to the critical phase meeting.
- Invite DOT Street Lighting, Con Edison and DDC Street Lighting/Traffic Signal Coordinator to the meeting.
- Ensure that all DOT Traffic Signal/Street Lighting drawings are approved and signed.
- Ensure that SLO (Street Lighting Work Order) was issued by DOT to Con Edison.
- Review schedule of work as it pertains to street lighting and traffic signal work (critical).
- Ensure that chain of command protocols are adhered to.
- All changes in the design or installation of Street Lighting & Traffic Signals must be in writing.
- Ensure that additional temporary lighting and temporary signal requests are made in writing.
- Ensure that temporary lighting (pylons) are adequately documented and approved by DOT.
- Ensure that temporary overhead feed will be provided to maintain existing fixtures.
- Ensure that all field changes are adequately documented.
- Ensure that DDC Street Lighting and Traffic Signal coordinator is copied on all change orders.

STREET NAME & TRAFFIC/REGULATORY SIGNS

SUBMITTALS & APPROVALS (All Submittals to RE / EIC Except as Noted - Then Copy RE / EIC).

- Submittals
  - Street Name Sign Orders
  - Traffic Sign Orders

- Subcontractor/Services
  - Traffic Signs
  - Street Name Signs

- Vendors Submit for Approval to: DDC Director of Quality Assurance (3rd Fl., 30-30 Thomson).

	Submitted	Approved	Pending	Notes
Traffic Signs	☐	☐	☐	_____
Street Name Signs	☐	☐	☐	_____

CONSTRUCTION ISSUES – GENERAL

- Perform pre-construction survey of existing signs on the project site.
- Invite DOT Geometric Design Division to the meeting.
- Ensure that Subcontractor, if any, was approved by DOT.
- DOT Sign Shop and/or Subcontractor to prepare signs.
- Request Traffic Sign Orders from the DDC Borough Construction Coordinator at 75% of construction or before the start of final paving operation.
- Request Street Name Signs orders directly from DOT.
- Traffic & Street Name Signs Orders are prepared by DOT Geometric Design Division.
- For Traffic & Street Name Signs send Project Limit Sketch (overview) to DOT.
- Lead time for sign orders should be at least four weeks.
- Distinctive signs, historical markers, plaques, trial markers to be saved and re-installed
- All changes in the sign orders must be in writing.
- Ensure that all other changes in the field are adequately documented.
- Ensure that As-Built inventories are transmitted to DOT, and a copy is provided to DDC.
- Existing signs to be returned to DOT.
- Payment for both faces of signage?
- See applicable SCOP for posting of signs to avoid conflicts.

FIRE ALARM/COMMUNICATION SYSTEM

SUBMITTALS & APPROVALS (All Submittals to RE / EIC Except as Noted - Then Copy RE / EIC).

- Shop Drawings, Reports & Calculations
  Fire Alarms

- Subcontractor/Services
  Fire Alarms

- Vendors Submit for Approval to: DDC Director of Quality Assurance (3rd Fl., 30-30 Thomson).

	Submitted	Approved	Pending	Notes
Fire Alarm	☐	☐	☐	_____

CONSTRUCTION ISSUES – GENERAL

- Invite FDNY, Verizon/Empire City Subway (ECS) to the meeting.
- Ensure that completed design drawings were sent to Verizon/ECS and FDNY.
- Ensure that Verizon/ECS and FDNY are aware of the start of construction.
- All changes in the design or installation of Fire Alarm must be in writing from FDNY.
- Ensure that chain of command protocols are adhered to.
- Ensure that all other changes in the field are adequately documented.
- Ensure that FDNY is aware of all construction schedules.
- Ensure that As-Built Drawings were sent to FDNY, and a copy is provided to DDC.
- Ensure that all accidental damages are reported to FDNY promptly.

MAINTENANCE & PROTECTION OF TRAFFIC (MPT)

SUBMITTALS & APPROVALS (All Submittals to RE / EIC Except as Noted - Then Copy RE / EIC).

- Shop Drawings
  - MPT Plans (to be submitted for approval as required)
  - Traffic Detour Plans (to be submitted for approval as required)
  - Bus Detour and Bus Stop Relocation Plan (to be submitted for approval as required)

CONSTRUCTION ISSUES – GENERAL

- Review contract drawings, requirements and traffic stipulations.
- All street opening and storage permits to be posted, copies to R.E.
- DDC/OCMC approval required for all traffic stipulation changes.
- No work prior to setting up MPT.
- Traffic enforcement agents to be deployed as required (six week notification to NYPD required).
- Flagmen as required.
- Roadway plates to be ramped with asphalt, spiked and coated with a skid resistant treatment.
- Use of pedestrian fencing to be strictly enforced.
- Access to businesses to be maintained as directed.
- Special access requirements plus temporary loading and delivery zones to be maintained as required.
- Sidewalks to be kept clear and open (5 ft min. width), or properly closed if permitted.
- Closed crosswalks to be properly fenced and signed.
- Pedestrian bridges to be installed as required.
- Temporary lane and pedestrian crosswalk markings to be maintained.
- Temporary pavement to be installed and maintained as required on roadways and sidewalks.
- MPT to be inspected and maintained daily.
- Payment deductions to be made for documented non-compliance.

MAINTENANCE OF SITE (MOS)

CONSTRUCTION ISSUES – GENERAL

- Review contract requirements.
- Excavated material and debris to be promptly removed from site.
- DOS stockpile site, see SCOP
- Stored materials to be secured and fenced in.
- Sweeping/Dust control.
- MOS to be inspected and performed daily.
- Payment deductions to be made for documented non-compliance.